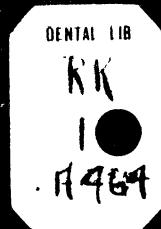
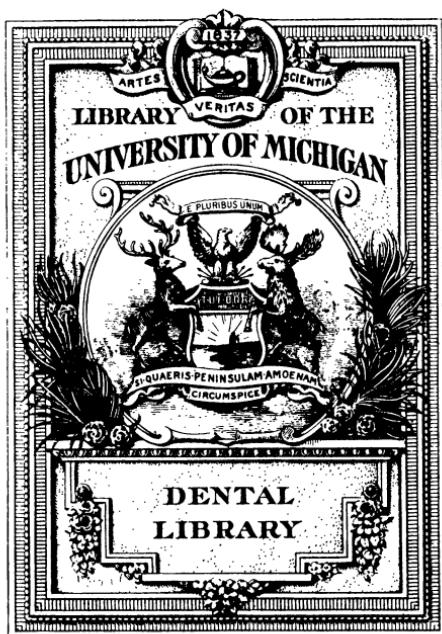


AMERICAN  
DENTAL  
JOURNAL

8

1909





# AMERICAN DENTAL JOURNAL

PUBLISHED ON THE FIRST OF EVERY MONTH BY FRINK & YOUNG

Vol. 8.

APRIL, 1909.

No. 4.

## TABLE OF CONTENTS.

### Our Post-Graduate Course.

Operative Dentistry, By R. B. TULLER, D. D. S.	205
Bacteriology and Pathology, By GEORGE W. COOK, B. S., D. D. S.	209

### Our Foreign Department.

Neuralgia of the Fifth Nerve, By WM. MATTEWS, L. D. S., Eng.	214
Premature Eruption of the Deciduous Teeth of a Baby, From The Dental Surgeon	224

### Original Contributions.

Toothsome Topics, By R. B. TULLER, D. D. S.	225
Answer to Miles J. Perkins' Open Letter, By DR. J. R. AKERS	227
One Way to Treat and Fill a Tooth, By DR. A. F. BRIGHAM	228
Devitalization, By DR. O. W. HUFF	229
Something More and Important About Dr. Taggart and the Dental Profession, By DR. EDMUND NOYES	233

### Editorial.

By R. B. TULLER, D. D. S.	236
---------------------------	-----

### Meetings

238

### Abstracts and Selections.

Successful Practice Building, By OTTO U. KING, D. D. S.	245
Limitation of Casting Machine, By W. E. KENNEDY, D. D. S.	250
Some Principles of Retention, By MARTIN DEWEY, M. D., D. D. S.	254
Conservatism as an Ideal in Bridgework Restorations, By FRED A. PEESO, D. D. S.	258
A Rational Treatment for Putrescent Pulp, By B. H. HARMS, D. D. S.	266
Country and City Dentists, By WILLIAM H. TRUEMAN	270

Miscellaneous	271
Personal and General	274
Dental Patents	279
Want Ads	280, 281
Index to Advertisements	283

# Listerine Tooth Powder

Tooth powders have long been empirically employed, chiefly as a mechanical agent for cleansing the teeth, and with little regard to their composition or chemical action. Many of the articles sold for this purpose contain ingredients prone to fermentative action in the mouth, such as orris root, starch, sugar, etc., and, in addition, pumice stone, cuttlefish bone, or other harmfully abrasive substances.

Listerine Tooth Powder, possessing neither of these objectionable qualities, very acceptably meets all the requirements of a frictionary dentifrice, and promises to give much satisfaction to those who employ it, in conjunction with a mouth-wash of Listerine, suitably diluted.

To dental practitioners of record, the manufacturers will be pleased to send a supply of samples of Listerine Tooth Powder for distribution to patients.

**Lambert Pharmacal Co.**  
**Saint Louis**

# OUR POST GRADUATE COURSE

## OPERATIVE DENTISTRY.

BY R. B. TULLER, D. D. S.

### SOMETHING ABOUT REGULATING TEETH.

To begin with I wish to disclaim any pretensions to bring a thoroughly experienced authority on Orthodontia or regulating teeth as a specialty; but having had some considerable experience as a general practitioner, I have been impressed with the value of some simple methods of procedure in regulating in some cases, that are great helps to any practitioner to whom comes some such work that for various reasons cannot be consistently passed along to the probably more expert specialist in that line. Every general practitioner has many cases that he must try to care for himself to the best of his ability; and later day graduates of dental colleges generally are very well equipped in the knowledge and technique necessary to do so; if in his student days he gave the proper attention to the instructions provided in all such schools.

Some of our patients cannot arrange to go or send children to a sometimes far away specialist, though many times that would be what we would like to and should advise for the best interests of the patient. Fortunately, and without much trouble ordinarily, we can submit casts to a specialist of any case on which we may desire counsel and advice, and obtain it for a fair consideration. And we may, also, in like manner secure the appliances specially made for the case if need be; or ready-made adjustable appliances adapted to a great variety of cases; or parts of such appliances may be had if so desired.

In attempting any sort of regulating teeth, one perforce must have a proper sense and understanding of basic principles, and the laws of physics and force and their regulated application where living tissue is involved.

It is well known that not only can the teeth be moved in the jaw, and some bodily moved to a considerable distance, by the ap-

plication of steady, continuous and regulated force; and thus may the jaws be changed materially in shape, and in consequence, the external contours of the lower face and nose to a marked degree if the case presents early enough in life.

The use of metallic appliances scientifically planned and made, positive and reliable in action and under perfect control, have well nigh supplemented the somewhat uncertain affairs and make-shifts of a few years ago, but the use of traction ligatures or threads in connection with metallic appliances, or, in some cases even alone, and sometimes elastic rubber bands, may be used very advantageously if, as before stated, the laws of physics and force as applied to living tissue are duly calculated upon. The elastic band, continuous and usually vigorous in its tractive force or pull, may be advantageous in some cases, and particularly where rapid (though probably painful) movement is desired; but unless especially guarded against may go further than desired.

Ligature traction depends upon the shrinkage of the fibers when wet, and while powerful is yet gentle, and soon reaches the limit of shortening up, and requires the adjustment of a fresh piece to continue the movement. In my experience I have in some instances brought certain irregularities of anterior teeth into the proper arch alignment by the use alone of suitable ligatures. The teeth were kept in position afterward by the influence of occlusion which at each closure of the jaws exerts a force that persists in keeping the tooth or teeth involved from following any inclination to drop back into irregularity. Thus an upper central or lateral or both having been from some cause diverted during eruption so that they drop inside the lower arch, may be brought out to place in course of a few hours, often (over night) if occasion demands, when they may, under proper conditions, be released and will not go back owing to the lower teeth striking them lingually, as should be, when jaws are closed. Frequently this kind of irregularity may be overcome by a traction ligature attached to a wire or bar secured across the gap to several teeth each side by silk ligature, and keeping the jaws apart until the change of position has taken place. If teeth on both jaws are abnormally placed and interlocked, then the case is more complicated and both jaws have to be regulated and by such means as may seem advisable and the traction ligature may or may not be in-

dicated. Where ligatures may be used alone they are the least objectionable usually to the wearer, if properly adjusted and secured from displacement. Children will wear the ligatured arrangement where it would be difficult and tedious to adjust bands and braces.

Suppose, for instance, one has a case of slight irregularity of the four lower incisors, they may often be brought into proper alignment by the use of a variety of silk and perhaps other kinds of ligatures provided by some producers of dental floss. The first steps may be to produce sufficient separation to permit of readjustment. This may be easily accomplished by selecting a suitable size of flat dental floss, and weaving it not too tightly in and out around as many teeth are involved in the row including also the cuspid and coming back in same way to starting point, tie the ends. This should be adjusted at the contact points, and to keep there should now be tied by short pieces being inserted under and brought over between the teeth and tightly knotted. These ties it will be seen surround the other thread and the contact point and prevent slipping up or down—at least until considerable separation is accomplished.

When the separation is sufficient remove everything, and using a thread or ligature made especially to produce traction by shrinking when wet, weave it as before, going around a second time perhaps, and drawing pretty light, knot the ends together so there will be no slipping. Now tie as before in the spaces, using the thinnest thread at hand. When this becomes wet the traction force is so great and in such direction as to swing the teeth into proper alignment, extending even some rotating influence on such teeth that require it. This may remain a couple of days or more, when it should be renewed in like manner, but using thinner threads. The separating enlarged the arch; the traction drawing the teeth together reduces it. The result, when the apical end of roots are not out of place, is alignment of the tops or cutting edges. A staypiece may then be made to hold them in place until firm; but many times the ligatures, frequently renewed, and teeth polished between times, will be all that Nature needs to help the natural tendency for teeth to take their proper place if not otherwise too strongly influenced.

Considerable rotation of a tooth may be accomplished by winding several times with a traction cable (thread) and fastening the ends to braces in opposite directions from the tooth operated on.

The firm of John D. Cutter, Brooklyn, N. Y., a producer of dental floss, etc., has made a study of the dentist's needs in these things, and has produced a variety in both thinness and width of what they call Ribbon Floss, and put up in various convenient ways for both the dentist and his patients. There are thick waxed ligatures for holding the rubber dam and other purposes, and flat floss ribbons of several varying widths for cleansing and polishing in prophylactic effort. One style is especially designed to carry pumice or other abrasive powder. Another is designed to test for caries between the teeth; and another, as has been said, is made of material of such shrinking qualities that it is called traction cable for use in regulating teeth.

It seems to me to be but right and proper to recognize people who try to study our wants and to produce things for our convenience.

There is a mistaken idea among people, and even with some dentists, that any kind of silk or linen thread will do very well for cleaning the teeth. If it is a hard sort of round, bulky thread, it will not pass in between the teeth as desired. Some ribbon floss brought out by this concern is as thin as tissue paper, but is as strong as needed and the wide thin floss ribbons certainly accomplish something used as cleaners, and they will pass where anything less thin would not. The traction cable is small and round, but strong as a trout line. This is not waxed, neither is the testing floss; the others seem to be. All are to be had at dealers, and sample cards with numbers and letters are supplied on application.

*(To be continued.)*

**BACTERIOLOGY AND PATHOLOGY.**

BY GEORGE W. COOK, B. S., D. D. S., CHICAGO, ILL.

DEAN OF DENTAL DEPARTMENT, UNIVERSITY OF ILLINOIS, PROFESSOR  
OF BACTERIOLOGY, UNIVERSITY OF ILLINOIS.

In the discussion of milk and the action of bacteria on that agent, we showed in a general way that the effects of bacteria on milk is one of the interesting problems of the present day discussion of bacteriology. Much has been written upon this very important subject and especially its relation to the food material of man. It has long been known that bacteria play an important part on the fermentative processes in milk and like material. Alcoholic fermentation is not of a common occurrence in milk, while alcoholic fermentation can be produced it is rather a rare occurrence.

There have been two fermentative processes established and the products of such fermentation have been used as beverages in some parts of the world, and at times have been highly recommended as a food material. I have reference here to kephir and koumiss. The first named of these two is usually made from cow's milk, and was first made in the early part of the last century. As we have just stated, the alcoholic fermentation in milk was never considered a very common occurrence. Considerable difficulty was manifested in the manufacture of this agent until kephir grains were found to be a ferment, that would assist bacteria in breaking up milk in the manner that would bring about alcoholic fermentation. Kephr as a ferment is in the form of hard yellow granular lumps about the size of peas and when they are soaked in water and added to milk they induce alcoholic fermentation. The object in soaking these grains is to cause them to swell to a much larger size. When they are placed from the water into milk fermentation immediately begins. The origin and the action of these granules is somewhat of a mystery, although their chemical and physical composition have been more or less investigated, their connection is not well established. However, it is believed that their influence in this process is due to the bacteria and mould fungi that they contain. Their principle contents for this class of fermentation seems to be due to the *oidium lactis*, the *teptrothrix dispora caucasia*, the *saccharomyces cerivisae*,

the *bacillus acidi lacti*, and the *bacillus butyricus*. The chemical composition of kephir, according to Hammersten, consists of water, fat, casein, lactoalbumin, pepton bodies, sugar, mineral salts, alcohol and lactic acid. Struve found that the kephir grains contain about fifty per cent of albuminoids and nearly four per cent of fat. The nature of the fermentation processes of this agent is not very simple. In the early part of the manufacturing of kephir it was thought to be an alcoholic fermentation produced by the yeast fungus on milk sugar. But the many constituents that it contains shows that kephir is produced by a number of micro-organisms actively engaged in breaking up the various compounds in the milk, some of the organisms producing alcohol, others producing peptones and a number of others producing certain organic acids, and then others producing the coagulation of casein.

Koumiss, the second one of this fermentative process, is in many respects very much like that of kephir, although somewhat different in that it is made from mare's milk instead of cow's milk. This agent was probably first made in Russia. It is in general characteristics very much like kephir, a foaming liquid resembling buttermilk or sour whey. It differs from kephir in its general characteristics by the addition of cane sugar instead of the kephir granules. The analysis of koumiss made by Fleischmann shows that it contains water, milk sugar, lactic acid, casein, fat, alcohol, carbonic acid and mineral salts. It contains about ninety-one per cent of water and the other nine per cent is made up of about one per cent of each with the exceptions of carbonic acid and inorganic salts. Both of these beverages have been looked upon by medical men of some value in the treatment of the sick, in that they act as a tonic and of course having some value as a food material. But their real value as either a food or a tonic has never been very well established.

We have already shown some of the organisms that can be placed in milk and are capable there of producing certain fermentative processes, and they in a slight degree change the chemical composition of milk into a more palatable food material. The chemical and physical constitution of these products are of great value perhaps in some cases of disease processes of the stomach or intestinal tract. But as to their real value it is a question yet unsettled.

Since we recognize that these nonpathogenic bacterial forms

can be kept in direct contact with milk and produce certain chemical changes of this substance, the class of organisms that are usually found in milk to a more or less degree that will produce disease is not a well established fact. The so-called pathogenic bacteria are not considered constant inhabitants of milk. The direct effects of bacteria of a disease-producing nature that may inhabit milk is that produced by the organisms themselves being brought in direct contact with a predisposing tissue and there produce by direct contact certain disease processes. They may also break up certain compounds of milk and produce ptomaines or toxines that can readily be absorbed from the digestive tract, and in this way produce their toxic effects with all of the characteristic symptoms.

This last named method of producing the deleterious effects on the animal body is one of great importance, inasmuch as these organisms may live in milk and produce considerable quantities of these toxic products. If they are continually taken into the digestive tract for a sufficient length of time they may produce so many of the symptoms of disease as to make it appear that the body was constantly inhabited by a localized foci of certain forms of bacteria and there producing the characteristic symptoms of disease processes.

One of the pathogenic bacteria which has created as much discussion as any is the tubecular bacilli. The presence of this organism in cow's milk is said to be due very largely to the fact that the cow is suffering from a tubercular lesion. According to the investigations of Hirschberger, ten per cent of the cows living in the neighborhood of cities and towns suffer from tuberculosis, and fifty per cent of these contain tubercular bacilli in the milk. Experiments demonstrated that the virulent properties of these organisms were unquestionably present. In Copenhagen it was found that four out of twenty-eight mixed samples of milk when injected under the skin of susceptible animals produced tubercular lesions. Brouardle quoted an observation, that fourteen young girls living in a boarding house contracted tuberculosis subsequently to the daily use of milk from a tubercular cow. It has been demonstrated that the tubercular bacilli can live indefinitely in dairy products; in butter the tubercular bacilli have been found to live actively virulent for a hundred and twenty days; in cheese thirty-five days. It was also demonstrated that the viru-

lency of the tubercular bacilli diminished very rapidly after thirty days in cheese. One of the observations of considerable note is that the tubercular bacilli can live in dairy products at a much lower temperature than most any other forms of bacteria. In order to destroy the vitalistic properties of the tubercular bacilli in milk it must be heated to a temperature of 65 degrees C. (149 F.). If the temperature be raised to 68 degrees it only requires fifteen minutes to destroy the tubercular bacilli.

It will be seen that the best authorities on the sterilization of milk claim that when it is heated above a temperature of 70 or 80 C. or 158 to 177 F. that milk can be sterilized without producing any special injurious effects to the product. So it will be seen here from the figures given that the destructibility of the tubercular bacilli may be accomplished without any very detrimental effect to the milk as a food product. It has been shown that many persons are unable to take milk after it has been heated to the temperature above named. The sterilization of milk is not as easy a question as would be considered at first sight. The destruction of the tubercular bacilli and the destructibility of milk are so nearly of a point of temperature as to make it almost impossible to carry on by the ordinary dairymen the proper sterilization of milk.

The presence of the tubercular bacilli is not all to be considered regarding the presence of pathogenic organisms in milk. The cholera bacillus has long enjoyed the reputation of living equally as well in milk as the tubercular bacilli, though this organism is not as extensively found among animals as the tubercular bacilli. Another point of importance with the cholera bacilli is, that the abundance of lactic acid bacteria in the milk causes lactic acid fermentation and rapidly produces the destruction of the cholera bacilli. The typhus bacillus is another pathogenic organism, the presence of which has been found in milk, and its general characteristics there shares about the same reputation as the cholera bacillus.

One of the most interesting problems in the investigation of milk is the action, growth, and the sterilization of milk and freeing it from bacteria. The growth of bacteria in milk is a question that is no longer doubted. The chemical changes that they produce in milk is a highly important problem, but the sterilization of milk or freeing it from bacteria without destroying the most important palat-

able product of milk is a question that must interest every one. These micro-organisms, and especially the tubercular bacilli, have to have a certain degree of heat in order that they will be destroyed. We have also shown that if milk is raised to a temperature high enough to destroy bacteria it is very liable to render the product objectionable to the taste of the people.

The word disinfectant or sterilization in this connection means the destruction of bacteria. Sterilization by heat means the raising of the temperature to a degree high enough to cause death of bacteria. Pasteurization of milk means the intermittent of sterilization, in other words, it means to heat the milk to a low temperature, say 65 C. and allowing it to cool down and again submitting it to this heat again for twenty minutes, and the third time if need be. Direct sterilization is to raise the temperature to a degree and long enough so that it will cause the death of bacteria. Either one will give milk the flavor of cooked milk, which we have just previously stated is objectionable to a large number of people.

The disinfecting of milk by chemical agents has never been very successful, inasmuch as the chemical agents that will destroy bacteria have a very deleterious influence on man and the higher animals. Therefore chemical agents for the disinfection of milk are practically out of the question. It is almost essential that we resort to heat to rid milk from bacteria.

The important diseases that can be transmitted from cattle to man are tuberculosis, scarlet fever, diphtheria, foot and mouth disease, and typhoid fever. In addition to these organisms that are found in milk are the *coli communis*, the *staphylococcus albus*, the *staphylococcus pyogenes aureus*, and the *streptococcus pyogenes aureus*.

*(To be continued.)*

# Our Foreign Department

THOMAS L. LARSENNEUR, D. D. S., Foreign Department Editor

## NEURALGIA OF THE FIFTH NERVE.\*

BY DR. WM. MATTEWS, L. D. S., ENG.

(*The Dental Record*, London, Jan. 1, 1909.)

Neuralgia, strictly speaking, is more a symptom than a disease. It is used to indicate pains passing along the course of nerves usually superficial branches. It is our business to ascertain the cause of these pains.

Of all neuralgias, trigeminal neuralgia is the most frequent.

Out of one thousand seven hundred and seventeen cases collected by Connards, two hundred and thirty-nine were trigeminal cases. It is only what might be expected when we consider the extensive areas supplied by this nerve, the large number of its branches, the number of delicate organs it supplies or partly supplies, together with the exposed position of the area supplied, and the number of narrow canals through which the nerve passes.

There are two great classes of trigeminal neuralgia; those that are peripheral in origin, and those that are central, the former being caused by irritation of nerve endings, the latter being due to some change in the nerve center or the nerve itself.

Dr. Starr gives the following explanation of referred pains:

### EXPLANATION OF REFERRED PAIN AS GIVEN BY STARR.

Branches of the visceral nervous system enter the spinal cord at various levels throughout its entire length. Irritation sent into the spinal cord through these nerves set up sensory impulses in the various segments of the cord, each segment receiving impulses from a certain organ.

\*Inaugural address delivered before the Liverpool Odontological Society, October, 1908.

These sensory impulses are sent upwards to the brain, and become sensory perceptions. They are referred by consciousness, not to their actual point of origin but to the part of the body from which sensations usually come when received at the particular segment irritated.

Thus, as in general experience, sensations and pains coming from the various segments of the spinal cord have been due to irritation in the surface of the body corresponding to these segments. These various visceral sensations are referred to the surface of the body. In eye strain, for instance, the pain is referred to the supra-orbital region or to the back of the neck. In toothache the pain, in cases of neuralgia, is felt not so much in the tooth as in the face, the pain being referred to that particular facial area, that the particular segment of the medulla receiving the impression from the irritated tooth pulp is accustomed to receive stimuli from.

During recent years much has been done to explain the mechanism of the nervous system. The important part played by neurons in all their varieties, the changes they undergo in normal action and in fatigue, the intimate way in which they are connected by branches and related to each other serve to explain how it is that irritation arising in one of the viscera, for instance, the nerve pulp, may be consciously perceived as a pain in some part of the face, and may also give rise to twitching of the eye or some other muscular action.

The vast majority of cases we are called upon to treat are undoubtedly peripheral in origin, and there is little difficulty in ascertaining the cause of the trouble. If, however, on careful examination of the teeth no apparent cause can be found, that is to say none of the teeth are sensitive to pressure, there is no exposed nerve in any tooth or root of a tooth, no erupting or unerupted tooth, no filled tooth that responds abnormally to pressure or thermal changes; then, we have one of the more difficult cases to deal with. In such cases, it is of the utmost importance that we should find the exact locality of the area of pain and tenderness. In this we shall be materially assisted, where the patient is unable to localize the exact area of pain, if we examine carefully for tenderness.

To demonstrate this, pick up the skin and subcutaneous tissues lightly between the finger and thumb. As soon as the tender spot on the face is reached, the patient will complain that there he feels sore, tender or bruised. A better way, in some cases, is to make light

pressure with the head of a common pin over the suspected area. When this is done the patient may complain that he is being picked, or if the tenderness is less intense that the head of the pin touches a sore or bruised place. In this way one or more areas can be marked out following the lines of the superficial branches of the fifth as distributed on the face, and if a tooth is responsible for the trouble the locality of the pain will indicate which tooth it is. If this should be a filled tooth, even if there are no symptoms in it, the filling should be removed, the cavity examined, and if there should be the slightest indication that the nerve is involved, the nerve should be destroyed or the tooth removed.

To justify this statement, and to show how it is possible for a tooth to give rise to severe neuralgia without showing in itself any symptoms of disease, I will relate two cases that occurred in my practice.

One of my regular patients, a man who came to see me two or three times a year to have his teeth examined, complained for a period of at least two years of pain, more or less severe in character, in his second right lower molar and the right side of his face. This tooth had a very small gold filling, about the size of two pin heads, in a crown cavity. I could never find any symptoms in the tooth, no pain on percussion or on heavy pressure, no pain given by thermal changes. Yet one day he came to me with the tooth fractured completely through the crown, the fracture extending through the crown cavity that contained the gold filling. On removing the inner fragment, which only extended a little below the gum margin, I found a black line extending from the bottom of the cavity to a cornu of the pulp. The pulp itself was putrescent. This tooth had undoubtedly been the cause of the man's suffering for the pain subsided entirely when the remaining portion was treated and subsequently filled. There was no little difficulty in accomplishing this as the patient was unable to tolerate the presence of anything in the mouth to keep the tooth dry while operating on it. One had only to touch the tongue with the mirror to produce retching of an intense character.

Another case is that of a young man, about 24 to 26, for whom I have done a great many fillings. He had been under the treatment of a physician for a great many weeks for neuralgia, and the physician, failing to benefit him, sent him along to me. I could find

nothing wrong with any of his teeth, and sent him back to the physician with a note to say so. In another week or ten days the physician sent him again to me, saying he was sure it must be one of the teeth that was causing the trouble. There was a large amalgam filling in the crown of the first upper molar on the side affected. The area of pain and tenderness was such that this tooth might be the possible cause of his neuralgic pains. I removed the filling, and though I could find nothing much wrong I decided to devitalize it on the chance of it being the offender. This was done, and the neuralgia entirely disappeared.

If the neuralgia is dependent on the teeth for its cause, the pain will be referred to one or other of the areas supplied by the various branches of the fifth.

Head gives the following areas as being affected by the different teeth, thus taking the upper jaw first:

Incisor—Fronto-nasal.

Canine—Naso-labial and into the eye.

First bicuspid—Naso-labial.

Second bicuspid—Temporal or infra-orbital (one or other, rarely both).

First, second and third—Infra-orbital.

Upper molar—Temporal.

*Lower Jaw:*

Incisor—Mental.

Canine—Mental.

First bicuspid—Mental.

Second bicuspid—Doubtful (mental or hyoid).

First molar—Hyoid pains in the ear.

Second molar—Hyoid.

Third molar—Superior laryngeal or hyoid.

I don't know that these areas are exactly in accordance with what we as dentists are accustomed to find, but I think we shall agree that what he has to say with regard to the upper teeth and the areas affected is fairly accurate.

With regard to the lower teeth pains from the incisors canines, and first bicuspid are mainly referred to the mental area; those from the second bicuspids and the molar teeth to the mandibular and auricular areas.

As a rule, the patient is quite decided as to where the pain is; in other cases, the pain is so severe and radiates so far that one can not gather clearly which may be the tooth causing the pain except as to whether it is an upper or lower tooth.

Pains are never, I think, referred to the opposite side, so we shall have to reduce the teeth causing the pain to one side of the jaw. If this pain has persisted for some time, tenderness will almost certainly be present, and we may, by carefully testing the areas as just described, be able to arrive at a conclusion as to which tooth it is likely to be that is causing the pain.

In one or another of these ways the possible offending teeth can be reduced to two or three. Failing to find anything wrong with any of these teeth if the pain persists, it will be desirable in all cases to obtain radiographs of these particular teeth and examine for pulp-stones or exostosis.

To enumerate the causes of neuralgia, let us take what is probably its most frequent cause.

#### PULPITIS.

First, as brought about by exposure of the pulp.

Second, from inflammation caused by the presence of pulp-stones.

Third, as a result of exostosis of the root.

Fourth, from inflammation of the pulp produced by extension of inflammation from the periodontal membrane in cases of traumatism or in cases of periodontitis, or Rigg's disease.

When the pockets become so deep that the apices of the teeth are approached, the septic matter contained in them sets up an inflammation of the whole of the pulp. Usually, in these cases, the teeth become very tender, and excessively sensitive to heat and cold, so that there is little difficulty in deciding which is the offender. It is by no means always necessary to extract the teeth.

One can often devitalize them and make them useful organs for some time to come.

Pathological changes in the canals through which the nerves pass or other vessels accompanying them, such as thickening of the periosteum of the canals, degeneration or sclerosis of the accompanying vessels. These perhaps are causes of neuralgia quinti major

rather than neuralgia quinti minor. In the earlier stages the symptoms of the former resemble closely those of the latter.

There are various systematic causes of neuralgia. Of these none exercise a more powerful influence than anaemia.

In these cases the pain is often widely diffused, and out of all proportion to the cause. Profound anaemia is often unaccompanied by neuralgia. It would not seem, therefore, that anaemia is in itself a direct cause. In these cases a slight irritation of the nerve of a tooth, such as might arise in a filled tooth, or in a slightly decayed tooth, may produce pain widely diffused and of a severe character.

Fifteen or twenty years ago we used to see a number of these cases, particularly in young girls. They complained of neuralgia and toothache, but no apparent cause could be found for the trouble. The administration of iron and quinine seemed in these cases to be very useful. We see such cases now, but they do not seem to me to be nearly so numerous as they used to be in consequence probably of the more rational lives young ladies now live. They are given to taking more exercise, play games, and live more in the open.

Malaria, or brown ague, is a well known cause of neuralgia, the pain being principally in the supra-orbital branch of the fifth.

After influenza neuralgia of a similar character is not frequently present. In diabetes neuralgia is common, especially about the jaws and face. Neurasthenia and hysteria are frequent causes of neuralgia.

#### NEURALGIA MINOR CAUSED BY PERIODONTITIS OR ALVEOLAR ABSCESS.

Generally speaking, a dead tooth does not cause referred pains. The pain in these cases is almost always local and in and around the tooth, causing the trouble. The pain here generally subsides as the face begins to swell. This is because the pus formed at the apex of the root has found its way through the alveolar process into the submucous tissues, where it meets with less resistance and the abscess sac is enabled to swell more freely and the pressure on it is lessened.

Neuralgic pains may arise from an abscessed tooth in three ways:

First, when there is part of the nerve still living.

Second, when branches of the nerve (not nerve endings) to the pulp are involved in the inflamed area.

Third, where the trunk of the dental nerve is involved or en-

croached upon by the inflammation, as illustrated by the severe neuralgic pains which follow the extraction of the lower wisdom teeth.

#### NEURALGIA MINOR SECONDARY TO CHANGES IN THE EYE.

Astigmatism and hypermetropic astigmatism are well-known causes of headache. When the patient is debilitated from any cause, and has at the same time subjected the eyes to continuous strain these headaches often assume a neuralgic character, accompanied by superficial tenderness of the supra-orbital region.

Simple myopia does not produce pain of a neuralgic character.

#### NEURALGIA MINOR PRODUCED BY DISEASES OF THE EAR.

Pain from a lower tooth not infrequently produces earache, and, in some cases, the symptoms of the offending tooth are so slight that they are overlooked both by the patient and the surgeon.

Cases are on record where the membrana tympani had been punctured for the relief of earache that was subsequently proved to be a referred pain from a tooth.

#### NEURALGIA MINOR SECONDARY TO DISEASES OF THE TONGUE.

Malignant diseases or gumma of the tongue tonsil, nose or ear all may produce pain of a neuralgic character, attended by tenderness of a definite area of the scalp and face, as many diseases of the nose and also diseases of the organs within the thorax and abdomen.

Neuralgia caused by inter-cranial tumors is accompanied by anesthesia of superficial areas of the skin.

#### DIFFERENTIAL DIAGNOSIS OF NEURALGIA QUINTI MINOR FROM REFERRED VISCERAL PAIN.

Pain more constant, both as to locality and time.

Tenderness usually present in area to which the pain is referred.

Pain occurs at more regular intervals and is referred to different parts at different times.

Tenderness not usually present.

#### TREATMENT.

The important thing is to find the organ or disease causing the mischief, and, where possible, remove the cause. A careful study of the area of the pain and tenderness will help to elucidate the cause. Still, there will be cases where no definite cause can be found.

The next in importance will be to treat the general condition of the patient by placing him under the most suitable hygienic conditions

and giving such treatment as the general condition of the patient may indicate.

The antipyrin group, in particular phenacetin, have a very beneficial palliative effect in all cases of referred visceral pain. Gelsemium and butyl chloral are very useful in all cases of trigeminal neuralgia.

*Local Treatment.*—Hot application, sometimes cold, will generally be comforting and will serve to protect the parts from draughts, etc.

*Sedative Application.*—Menthol dissolved in chloroform, with aconite, or aconite and belladonna, is very useful. Lead and opium may be tried.

#### NEURALGIA QUINTI MAJOR.

Tic douloreux, or what is often spoken of as true tic: This is a hideous disease, and when fully developed presents a picture truly dreadful to behold. In the earlier stages it may be confounded with neuralgia minor, but as the case advances there is no difficulty in distinguishing it from all other forms of neuralgia. The pains are so intense, produced by such slight causes and of such lightning-like character, that it is difficult, if you have once seen a case, to mistake it for anything else. The slightest touch on certain parts, varying in different cases, such as the lips, the tongue or the cheek, will bring on intense paroxysms of pain, causing the patient to walk or stamp up and down the room, holding his head and doubled up with pain. A breath of wind, a slight touch on the head or hair, talking, drinking, deglutition, or even swallowing the saliva will precipitate a paroxysm or increase its severity, so that eating or drinking is accomplished with the greatest difficulty, the hair is allowed to grow and the saliva to dribble from the mouth, the patient, deprived of sleep, scarcely able to eat or speak, leads a miserable existence. Very little is known in regard to the pathology of the disease. It is a disease of middle age, and may affect males and females. The general symptoms of these cases are that when the patient, apparently in good health, is suddenly attacked with pain within the course of one or other of the branches of the trigeminal. The pain continues for hours or days, being sometimes continuous, and sometimes intermittent. It is often referred to the teeth, or one particular tooth, which will generally be found to be perfectly sound, the patient will often persist in having

the tooth removed, in spite of the fact that he is told that it will probably give him no relief. Curiously enough, relief often follows such an extraction, but the relief is only transient. Often the patient will lose all his teeth in this manner, being convinced that the teeth are the cause of her or his trouble, but as time goes on they too often go from bad to worse, until they are ready to consent to any operation that in any way holds out a hope to them that it may lessen or terminate their sufferings.

In the last extremity many are led to suicide.

Such, gentlemen, is the picture in outline.

In all I must have seen some six or seven cases of this truly awful malady. Some have been operated on, first having one of the minor operations, such as nerve stretching, etc., and then removal of the nerve, followed by more or less temporary relief, but in all the cases I have seen the trouble has returned, in one case even after the removal of the gasserian ganglion.

#### A BRIEF OUTLINE OF THE TWO CASES THAT WERE NOT OPERATED ON.

The first, an old lady, whom I saw regularly for many years, and who died at a ripe old age from an illness wholly unconnected with her neuralgia, was subject to intense paroxysms of pain, sometimes having intervals when the pain was not so intense, and at other times being for weeks racked with pain.

In operating on her teeth I had to avoid certain parts in particular, one side of the upper lip, one side of the tongue and a small fleshy node, about the size of a small bean, that was situated on the alveolar ridge, where the second right lower molar had been removed. The slightest touch on any of these parts always brought on a paroxysm of pain at all times. She was what one would call a healthy, vigorous lady, with decided opinions and a matter-of-fact manner. She had consulted numerous and eminent physicians and surgeons without deriving any benefit. She persistently refused either to take sedatives or to submit to operation. She carefully considered the latter question, inquired amongst her friends what benefits they had seen derived from these operations, and decided to bear the ill she had rather than risk the operation and attendant consequences.

Another case is that of a lady who still visits me periodically. She has been suffering now for some seven or eight years. The first attack occurred some seven or eight years ago, when she was in a debil-

itated condition in consequence of family troubles and the strain of nursing a sister during a long illness. The pain came on suddenly, totally incapacitating her for many weeks. The pain was so severe and so easily provoked that she dared scarcely move, was quite unable to speak and could only take nourishment in a liquid form, and then only by holding the head on one side and allowing the liquid to trickle from a teaspoon into the corner of her mouth.

Since then she has had numerous attacks, varying in intensity and frequency, but never quite so bad. She is more liable to these attacks in winter than in summer. She is a married lady, approaching middle age, without family, of medium height, slight in build and of a nervous temperament. She has many teeth filled. I have destroyed more than one nerve for her since her malady commenced. It is possible that dental troubles have aggravated her sufferings, but I have seen leads me to believe that such troubles have been the cause of her suffering. She has certainly been better and has had no attacks now for many months. Curiously, her freedom dates from the time I destroyed the pulp of the upper molar, from which she said she thought the pain often commenced. The tooth was filled in more than one place, but to all appearances was perfectly healthy.

The treatment of these cases comes more into the province of the physician or surgeon than that of the dentist. If a cause can be found of a pathological or constitutional nature that is capable of treatment this must be the first point to attack.

Rest, attention to diet, the placing of the patient under most favorable hygienic conditions will in some cases do much.

Sedatives must, in some cases, be used, but too much care can not be exercised in their administration to guard against the drug habit being formed. The excision of the gasserian ganglion, a dangerous and difficult operation, is generally successful in that it puts an end to the pain of the patient survive the operation, but it is not invariably so. The minor operation of nerve stretching and nerve extirpation are too often followed by recurrence of the pain.

In the American System of Dentistry, vol. 3, page 447-501, a series of cases are given where long-standing facial neuralgia was cured by the extraction of teeth or their treatment. Many of these cases persisted for years before their dental origin was suspected. Numerous cases are also described where neuralgia of the arm, partial

paralysis of the arm, sciatica, epilepsy and blindness were all proved to have been caused by dental irritation.

These cases must be very rare, but there is no doubt they do exist.

It is not uncommon to see the conjunctiva inflamed from tooth-ache.

I have seen one case of neuralgia and partial paralysis of the arm cured by attention to a tooth. Two epileptics that have been under my care for their teeth for years have always had worse and more frequent attacks when they have had exposed nerves, and the attacks have lessened in frequency and severity when the teeth have been attended to.

I have never seen a case of blindness from pulp irritation, nor of very long-standing neuralgia.

---

#### PREMATURE ERUPTION OF THE DECIDUOUS TEETH IN A BABY.

(*The Dental Surgeon*, London, Dec. 12, 1908.)

A very rare instance of premature development was recently demonstrated at a meeting of the Vienna Medical Society, when a baby, age 4 weeks, was shown with all twenty teeth in his mouth. The child was born at the normal term, and is normal in all respects save that the gums are perforated by twenty small, otherwise apparently quite normal, milk teeth in their normal position.

The ossification of the bones, the development of hair, and the state of nutrition are in accordance with the age of the baby, a healthy boy. Such occurrences are not frequent, although several instances have been reported within the last few years. The parents are not relatives to each other, and no etiological factor can be suggested to account for the abnormality.

Such a case is not in accordance with Sir J. Crichton-Browne's belief that premature eruption of the teeth goes hand in hand with a neuritic condition and general feeble physical development.

# ORIGINAL CONTRIBUTIONS

## TOOTHSOME TOPICS.

BY R. B. TULLER.

### Some 'Riginal Poetry.

#### TOMMY ROWE.

I'se mama's boy, you dest can bet!  
An' she's the bestest ever was;  
I'm awful dlad my daddy met  
An' fell in love wis her; because  
Where'd I be at, I'd lite to know,  
If he'd a wed some other—see?  
Of tourse, my name'd be Tommy Rowe,  
But dest the same, I wouldn't be *me*.

Gee whiz! dest fink what might have been!  
It sets my noddle in a whirl;  
If my pa hadn't met ma, den  
Pre-haps I might been borned a dirl.  
I touldn't stan' for 'at—not me;  
Ain't built 'at way a l'il bit;  
No, I'm a *boy*—B-o-y—see?  
A *dirl*, by dosh! I wouldn't be it.

#### NEVER ONE LIKE THIS.

I've heerd peepul tell about babies  
With conceit jest surprisin' to see;  
You'd think in the hull of creation  
No brighter n'r smarter could be.  
Then I've seen them same kids, lemme tell ye—  
Jest the every-day, plain common sort;  
Couldn't see no occasion fer blowin'  
An' list'nin', by gum! wasn't sport.

## AMERICAN DENTAL JOURNAL.

Now, Hanner an' me hes been married  
 Nigh on to a round dozen years;  
 An' babies, huh! we didn't want none,  
 Leastways we hadn't no fears.  
 But now I've got sumpen to tell ye,  
 An' yer interest, I bet, I'll excite,  
 Fer Hanner an' me's got a baby,  
 An' no smarter one ever saw light.

We didn't say much at the fust, tho';  
 Had no tho't 'twas an oncommon child;  
 But gracious! it's a fac', he's a marvel,  
 An' with wonder I'm nearly driv wild.  
 Why, he's on'y twelve months an' he knows us;  
 An' of'en breaks into a grin  
 When Hanner er me tech his dimples—  
 Oh, he's a kid that's cuter than sin.

He has his high chair at the table;  
 But fingers was made afore forks;  
 An' he ain't got no time for to bother  
 With any sich folderal works.  
 He loves bread and butter an' 'lasses,  
 An' in eatin' he's runnin' a race;  
 But, say, when he gits to the finish,  
 Most the grub's on his sweet, purty face.

W'y he creeps on the floor like a cricket,  
 Tries to pull hisself up by a chair;  
 He's a purty good hand at the pullin'  
 When he gits a good holt of pa's hair.  
 It's a fac', too, p'raps you won't b'lieve it,  
 He can call out "mama" mighty plain;  
 An' when he don't git what he's wantin',  
 He'll cry like he had a real pain.

W'y he's jest a cute little monkey;  
 Patty-cakes like a real baker man;

An', to show how big is our baby,  
Hol's his han's up as high as he can.  
Sometimes when he's bizzy with mother,  
I teasin'-like calls out, "Hey, Bob";  
But he jest rolls his eye to the corner  
An' never lets up on his job.

Well, to sum up all there is 'bout it,  
I've never in all my born days  
Seen a kid that was one-half his eq'al—  
Sich forward an' marvelous ways.  
He takes no back seat fer no one;  
Can't be beat at no cunnin' trick;  
An' ef enny you folks has got babies  
Don't blow an' make other folks sick.

---

#### ANSWER TO DR. MILES J. PERKINS' OPEN LETTER.

---

Dr. Huff has asked me to answer the above gentleman's letter and in reply will say, that Dr. Huff not being so well posted on biblical history as in the treatment of teeth, meant literally *Thou shalt not kill*.

In surgery it is not the custom to kill a part in order to remove it, and is not the extirpation of a pulp a surgical operation?

When he wrote his article, "Thou shalt not kill," he had reference to all drugs which destroy the life of a pulp. Cocain is not a destroyer; it is an anesthetizer rendering live tissue insensible to pain and does not change an acute condition to a chronic one as is the case when you devitalize.

I think if Dr. Perkins could visit Hot Springs and spend some of his time in this office and see the serious results caused by infected buccal canals in molars and bicuspids he would devote a little more time and attention to the proper treatment of them and not depend upon a mummifying paste to relieve him of a tedious operation.

About the easiest way to open up these canals is with  $H_2S O_4$  and sodium, reaming them out with Downies' twist broaches. Of course any intelligent dentist knows that the root must be properly

filled and you will never have any trouble if you first measure or fit your point, then pump a small amount of pustolene into the canals and then force in your point.

The doctor says "Faulty root filling rather than because nerves were devitalized is the cause of trouble." If so, then why in our experiments, teeth in the same mouth get sore when arsenic was used and those in which pressure anesthesia was used gave no trouble whatever?

We find that in some cases teeth that were devitalized six, eight or even ten years ago, commence to get sore and give trouble especially of a reflex nature, just as soon as the patient has taken a few of the baths here, but Dr. Huff's experience here of four years has proven beyond doubt that it is the devitalized teeth which cause the trouble.

I would like to have some of the doctor's nerve qui-e-tus patients come here for treatment, not that I wish any one trouble, but I'll bet they would have it. We have ordered some N. Q. and will experiment with it.

Have just tried N. Q., according to directions, on first case. Tooth got extremely sore; in order to avoid future trouble and continued pain to patient, decided to take out pulp and treat as a dead tooth; however, we will not condemn it as yet.

Hot Springs, Ark.

DR. J. R. AKERS.

---

#### ONE WAY TO TREAT AND FILL A TOOTH.

---

Last August while in Lewiston I called on my friend, Dr. Brown. "Doc," says I, "if you have a few minutes to spare I wish you would plug up this lower bicuspid for me. Left lower distal. Big amalgam filling dropped out. I guess it don't need any excavating—just putty it in." "H'm," says Dr. Brown after working a few minutes, "I think a horn of the pulp is exposed." "Ouch! so do I," I yelled as he was proceeding to verify his first think. "Yes," said Dr. Brown, "I can see the little red devil right there." Dr. Brown put in "something to kill the nerve" and I came home. The gutta percha came out and the tooth did not trouble, and I forgot it for six weeks when it began to ache and I went to my friend, Dr. H—. He spent about fifteen minutes, reamed out the canal and put "some-

thing" in and sealed with gutta percha, and I came home. Tooth gave no trouble, but gutta percha came out. I stuck in some more and that came out—what would you expect?

It was now October and wasn't I going to take a vacation the next week—and take in that society meeting? And I didn't want to take that big cavity along. So getting in front of the mirror I put a rubber dam on, then put on a matrix and scraped out the remains of gutta percha and incidentally Dr. H's canal dressing, which I intended to leave. I took a red cross canal drier, dipped it in campho phenique, stuck it down the canal; mixed some cement, filled up the cavity, removed matrix and went to the meeting, and now after nearly six months the cement is still in place and the tooth comfortable and apparently in good condition. Now, what do you know about that?

SPRINGVALE, MAINE, Feb. 24, 1909.

O. H. BRIGHAM.

---

#### DEVITALIZATION.

---

BY DR. O. W. HUFF, HOT SPRINGS, ARK.

---

The gentleman who answered the article, *Thou Shalt Not Kill*. I don't believe makes this distinction; there is a vast difference between a tooth that the nerve is taken out alive and the tooth where the nerve is taken out dead or in pieces.

The line of demarkation between life and death is the point. I don't believe a tooth will get sore to touch if there is no infection.

I don't believe it possible to limit the action of a poison.

Nature will restore itself, oftentimes if you stop the irritation. *Absorption, assimilation, elimination* and *restoration* constitutes life or death in the body as well as the tooth. The same principles that apply to the life and death of a tooth apply to a man. Any exposure is an irritation and when dentists treat a tooth as they would a live being, there will be better results obtained in the treatment of teeth and not until they do.

We are speaking now of willful devitalization, where the nerve is killed. In Hot Springs we have an exceptional opportunity to get a line on the dentists, and their mode of treatment. Antrum trou-

bles galore here, - with specific complications and in the majority of cases caused from the buccal roots of the first molar.

I don't believe people take cold in teeth unless they are diseased.

Why would one tooth get sore, why not all? Disease follows the line of least resistance and wherever it is possible to remove a nerve alive it should be done. You must believe in the law of degeneration as it applies to teeth, and anything that irritates will produce degeneration, and that is another point in diagnosis that causes reflex trouble. I have cases of sinusitis caused by the nerve dying in a tooth and not enough infection to cause suppuration but enough to produce reflex trouble. A tooth sensitive to hot and cold under any kind of a filling should have attention.

I could cite many cases that come here with such conditions. I wonder if the doctor ever had a case like the following: A gentleman 40 years of age had twenty years ago a case of gonorrhea and supposed to be cured, and if it were possible for a person to keep their physical equilibrium Nature would take care of diseased and infected tissues.

The patient in question was being treated by a doctor here, at the same time he was sent to a dentist with two teeth where the nerves were almost exposed, so much so that the dentist put cement in both teeth first and second left upper molars. The nerve died in one from irritation produced by conductibility or any cause you may assign. In the other the filling was removed and arsenic applied to the live pulp for the same purpose.

Now tell me why these two teeth would ache every time a sound was passed for the treatment of his trouble and would be so sore that the patient could not stand to have them touched for a day after his treatment? If that is not reflex localized temporally from constitutional treatment due to infection local and general, what is it?

Why did those teeth and not the bicuspids get sore?

The case came to me and I observed every symptom and can assure you the case was very interesting. This condition would be impossible where pressure anesthetic is used and an aseptic operation performed.

The same reflex will occur in women where the conditions are the same.

Earache is often due to this reflex.

When the above named gentleman's physical equilibrium was restored his teeth ceased their trouble. Two years have elapsed, to date, and no return.

You speak of mummifying. Don't you think you could mummify a live tissue better than a dead one?

Did you ever have a case of sympathetic antrum trouble? The face in the region of the nasal plexus would get red and burn, caused by a lower molar, due to the canals of lower tooth being filled with cotton, not enough infection to cause suppuration for a gum-boil.

By the way, the blessings and virtues of a gum-boil are many and covers a multitude of ignorance. Nature often comes to the relief of both patient and *dentist*, but enough infection to produce reflex ear-trouble, antrum trouble and sinusitis; the diagnosis of such cases is not simple but shows the power of infection and I say it is wrong in practice and theory for a dentist to produce a condition he often times fails to cure.

It is bad enough when patients go to the dentist with dead and aching teeth. Pain will cause the nerve to die. You will find in some pyorrhea cases where the gums have receded congested pulps and if you will observe closely many cases of neuralgia are due to this.

Nature is trying to assimilate the increased amount of blood to a given part which will cause reflex symptoms. There is a great difference between the tone or sound of a live tooth, a dead tooth, a tooth or teeth with pyorrhea. To diagnose correctly is the one question of the hour, and in my opinion there is as much trouble caused by lack of ability to diagnose, as there is by the present mode of treatment. When to operate and where, is of as much importance to obtain results as it is to locate your trouble.

My definition of dentistry is the treatment and saving of teeth and treating diseases of the mouth.

How many dentists have you met that can clean gums or use in a skilful way a set of Younger's scales?

What advice does a dentist give his patient about cleaning the mouth? Did you ever hear one say to a patient, "Wash your mouth like you would your face, massage your gums with your finger and the roof of your mouth with your thumb?" You may clean your

teeth, but do you clean your mouth? How about cleaning your tongue with a tongue cleaner to prevent throat trouble?

What good does it do to hold an antiseptic solution in the mouth and spit it out without using skilled labor? What benefit would a bath be if you did not rub yourself?

Mouth washes are all right, how to use them is the question. If a person's mouth is a packing house, why not rub the gums with salt or a warm salt solution or alcohol diluted?

I am judging from the cases I have, your troubles or pyorrhea will cause chapped lips. There are no worse cases to treat than those complicated with syphilis.

Many cases we have to tie with floss silk firmly before we can clean them. Setting a tooth in the mouth is like setting a bone in the body. No chance for permanent improvement from any treatment unless the movement of the teeth is stopped so Nature can unite again.

Again I don't believe in salivation in the sense the term is used. Filth alone is the primary cause. I have never treated a case of gum trouble complicated with syphilis mercury and potash that did not get well, and often the patient's mouth would feel better before they got out of the chair. I have taken mouths (and the patients live to tell the tale) that were so sore that the application of a remedy applied with cotton would be painful. But where the mouth is properly treated they do not have to stop the use of mercury, for no constitutional trouble will yield to local treatment.

I make this illustration to show that in such mouths, and there are many of them, every devitalized tooth that has been treated will give no end of trouble due to infection, the time is not distant I hope when a dentist can get a fee equal to the price of a crown for saving a natural tooth.

As to ability there is no comparison in saving one to making one. And when a dentist is willing to bet the price of his work the treatment of a tooth on the result and be as positive as he is in guaranteeing mechanical work over which he has no control after it is in the patient's mouth. There will be no question in the minds of intelligent people about the fee and such patients are willing to pay the price of a gold crown for positive results in the treatment of a tooth filled with alloy, especially so if the dentist is in-

terested enough in mankind not to do any work in a patient's mouth that he would not be willing to have in his own.

This is my standard of ethics and should be of every professional gentleman and the dental laws will then take care of themselves.

#### A MORAL.

Suppose the dentist after diagnosing their case had to appear before a jury and give their reasons (as lawyers do) explain to the untrained mind of twelve men, be questioned and cross examined by opposing counsel and the final judgment, as to how this patient's mouth should be treated.

Wouldn't we have a time?

---

#### SOMETHING MORE, AND IMPORTANT, ABOUT DR. TAGGART AND THE DENTAL PROFESSION.

To the older men of Illinois who for thirty years have been witnesses of Dr. Taggart's readiness to make his professional brethren acquainted with everything he knew and everything he could do, the present antagonism between him and the profession seems very deplorable, and every possible effort should be made to bring about agreement and co-operation instead of antagonism. There has been considerable complaint and criticism of Dr. Taggart, much of it by men who have not bought his machines and have no claim upon him; we are at present more concerned with the attitude and the duty of the profession toward him. There is essential and important misunderstanding by the profession generally as to Dr. Taggart's attitude, intentions and efforts as expressed in the suit he has brought for the protection of his patents. This will be best shown by a brief account of the facts, the principles and the duties relating to the subject. First, as to patents: The dental code of ethics has nothing to say about patents, either directly or by implication. "The Principles of Medical Ethics" is explicit and sweeping, in a short clause as follows: "It is equally derogatory to professional character for physicians to hold patents for any surgical instruments or medicines." The attitude of the dental profession is that of tolerance, probably approval, of the patenting of such things as can be made and sold in the open market by the makers or the supply houses. This is evident from the fact that many men holding such patents have never had their membership or standing in dental societies called in question. The profession has shown, and rightly, as I believe, an uncompromising dislike and opposition to such patents as can only be enforced or protected by the collection of an annual office license or of royalties on the operations performed. These are sometimes called

"process patents." This opposition is very little, if at all, on account of any unwillingness that one who gives to the profession some valuable new process or operation should be suitably rewarded financially. It is chiefly on three grounds. First, because the exactions are likely to be extortionate, as was the case by the Dental Vulcanite Company, and attempted by the Crown & Bridge Company; second, because the manner of collection is vexatious and irritating; third, and perhaps most justly, because the larger part of the money collected is likely to go to people outside the profession, who have conferred no benefit upon us and to whom we are under no moral obligation. In the case of the Vulcanite Company this happened as to the whole amount collected.

Dr. Taggart's attitude and intentions in these matters ought to be inferred and understood by all the older men of Illinois from the illustrations of it they have seen in him during the past thirty years. It is, however, shown more positively by an occurrence that happened in July, 1906, an account of which has not heretofore been published. At that time, long before his patents were granted, and half a year before the public announcement of his process, Dr. Taggart received a letter (which I have read), in which a perfectly responsible business man of Chicago proposed, with some of his friends, to form a corporation and take over Dr. Taggart's patents when they should be granted, with such improvement as he might make subsequently, and to pay Dr. Taggart \$100,000 cash and one-fourth of the stock. He refused the offer because he was unwilling to put it in the power of men outside the profession, whom he could not control, to exploit the profession after the manner of the Vulcanite Company. At the present moment the dental profession are exploiting Dr. Taggart to such an extent that he is the only man in the profession who has not profited financially by the use of his process. It is perhaps natural that the men who are doing this should have some wholesome fear that he may retaliate if he subsequently should have the power to do so, but in view of his character and record he should not be accused of it until he begins to do it. When Dr. Taggart took his patents he was advised that he could not defend the patent on his machine without taking also a patent on the process. What Dr. Taggart wishes to do is to sell his machines and to receive by that means his reward for what he has given to the profession. He has never asked any one for a license fee or royalties for the use of his process, and his present suit is not for that purpose, but only to prevent the defendants from using his process except with his machine. Now, the purchase of the machine carries with it, not as a favor or by agreement, but by necessary legal implication, all the rights and privileges under both patents for their entire term. It has been called a mistake for Dr. Taggart to make the price of his machine so high. That may or may not be true as relates to his business interests. As it relates to the profession: if there is any man who thinks he would be casting inlays except for Dr. Taggart, let him speak up and tell us from what other source he feels sure that he

would have derived the practice, and if there is any man who thinks it will not be worth \$100 to him and his patients to cast inlays, crowns and bridges during the next fifteen or sixteen years let him speak out. He would probably be laughed out of court, or, if not, perhaps those who think it is worth more would take up a collection to supply the deficiency. There appears to be a general demand on the part of the profession that Dr. Taggart withdraw his suit and rely upon the generosity of the profession to compensate him for his sacrifices and expenses in giving the casting process to them. If during the eight months from the time his machines were ready and before the bringing of his suit there had been any adequate disposition to do justice to Dr. Taggart, leaving out generosity, no suit would have been brought. If a man owed you a debt which he acknowledged, but refused or neglected to pay, and you brought suit, believing you could collect it, would you withdraw the suit and trust his generosity to pay the debt afterward? That appears to be exactly what the profession is asking of Dr. Taggart. The present attitude of the profession puts Dr. Taggart "between the devil and the deep sea." If he loses his suit to maintain his patents, they propose (judging by the experience of what the profession has done in this case and in other cases in the past) to make him a martyr financially, and if he wins his suit they intend to make him a martyr professionally for holding a process patent. The solution of this situation is simple and the moves for it are due from the members of the profession individually.

If we do not like the process patent let us sustain the patent on the machine by buying it so largely that the process patent can be left in disuse. It is a maxim of law which applies as properly before the bar of professional judgment and opinion as before a United States court, that "He who comes into court asking for justice must himself do justice," in other words "He must come with clean hands." How can the members of the profession come before the bar of professional judgment asking Dr. Taggart to relinquish his legal rights and depend solely on the generosity of his profession while denying him the justice they all admit to be due him? Or how can any man plead for the maintenance of ethical standards unless he deals uprightly himself? The adopted code does not include all of ethics; it was not thought necessary to say, "Thou shalt not refuse to pay just debts." It has been suggested and some men have seemed inclined to promise that if Dr. Taggart will withdraw his suit the profession will rally generously to his support. Possibly this is true, but, in view of their not having done so before he was forced to commence a suit to establish his right, there seems reasonable doubt that they would do so now. However, should there be shown on the part of the dental profession an honest effort, even at this late date, to treat the matter fairly and deal justly. Knowing Dr. Taggart as I do, I believe he would gladly meet the profession, if necessary, even more than half way in an honest effort to remove all difficulties between him and the profession, or that part of the profession which seems to think Dr. Tag-

gart is wrong in the position he has taken. The remark has been made to me, "We do not like the idea of being forced to buy Dr. Taggart's machine." It is a common sentiment among honest men that they do not like to be forced to pay their debts; they therefore pay them voluntarily. We owe Dr. Taggart a great sentimental debt, which is to be paid in gratitude, affection, honors and fame, but we owe him just as truly a debt in money for money value received, and if we refuse or neglect to pay it we ought not to be any more surprised if we find ourselves defendants in suits at law than we would be if our butcher or grocer were to sue us for a debt we refused to pay.

EDMUND NOYES.



There is in New York City, at Sixty-sixth street and Avenue A, an institution established by a fund supplied by Mr. John D. Rockefeller, called the Rockefeller Institute of Medical Research. In a communication from Dr. Simon Flexner in charge, it is stated that there is at present no one on the staff interested in the dental field; but that such a line of work is by no means excluded. The staff is now entirely occupied with other matters; but the reason that dental problems are not taken up is not because they do not realize the importance of this particular work.

Most of the work done at this institution is published in the Journal of Experimental Medicine, which is issued bi-monthly at a subscription price of \$5.00 per year.

Now, since dental problems, concerning the medical profession at large as a branch of medicine, and incidentally and yet directly concerning humanity at large, are not excluded from the work of this already established institution, it might be inferred that if some concerted and interested action was taken by the dental profession through their societies, there might be brought about the ways and means of establishing a chair in this institution, with ample facilities (in conjunction with what is already being done) for the investigation and research so much needed in the dental branch of medicine; carrying with it as it would, important benefits to the entire

field of medicine as well as to the dental specialist and to the world.

Considering the fact that the oral cavity as the vestibule of the alimentary tract, through which normal nourishment, and largely also the breath of life enters, and that the teeth and fluids of the mouth are prime factors in the preparation of the food passing into the system, and have an important influence on digestion and metabolism, it would seem that this part of our organism, the alpha of human physiological phenomena, so to speak, should have first place in these matters of medical research, and especially deranged action at that point, that may and do lead to other and often serious derangements of the whole human system.

This is a matter that should interest us all, and with the largest local dental society in the world in Chicago (over 1,000 active members), a component of the state society, whose endorsement could be counted upon (as well as the concurrence of the entire profession), this would seem to be a good place to agitate the matter, and set on foot a movement that should bear good fruit. The establishment of a dental chair in an institution already organized and operating in co-related research, and its maintainance assured by ample endowment, is a matter that should not be allowed to go by default, if the right active interest has the least show of bringing about the desired end.

R. B. T.

---

#### HOW TO GET CLEAN CAST INLAYS.

Dr. Nies, of Brooklyn, recommends the use of carburet of iron, the ordinary black stove blacking, or Dixon's stove polish for coating the wax model of an inlay preparatory to investing, to prevent the investment sticking to the gold. The application is made with a brush. He rubs the wet brush on the block of stove polish, taking up just enough to cover the wax model with a thin coating, and gives it a light coating all over. This is allowed to dry; the model is then invested in the usual manner. The casting comes out quite clean, no acid of any kind being needed. He tried mixing the stove blacking with the investment material, but found it made it too dense.—*Items.*



## MEETINGS

### NATIONAL SOCIETY MEETINGS.

National Dental Association, Birmingham, Ala., March 30, 31, April 2, 1909.

American Dental Society of Europe, Wiesbaden, Germany, April 9, 10, 12, 1909.

### STATE SOCIETY MEETINGS.

Alabama Dental Association, Anniston, Ala., May 11, 1909.

Arkansas State Dental Association, Hot Springs, Ark., May 26, 27, 28, 1909.

Connecticut State Dental Society, Waterbury, Conn., April 20, 21, 1909.

Florida State Dental Society, Ocala, Fla., June 17, 18, 19, 1909.

Iowa State Dental Society, Des Moines, Iowa, May 4, 5, 6, 1909.

Illinois State Dental Society, Danville, Ill., May 11, 12, 13, 14, 1909.

Indiana State Dental Society, Indianapolis, Ind., June 29, 30, July 1, 1909.

Louisiana State Dental Society, New Orleans, La., April, 1909.

Maine State Dental Society, Portland, Maine, June 24, 25, 26, 1909.

New Hampshire State Dental Society, Rutland, May 19, 20, 21. Michigan State Dental Society, Kalamazoo, June.

Nebraska State Dental Society, Lincoln, Neb., May 18, 19, 20, 1909.

New York State Dental Society, Albany, N. Y., May 8, 9, 1909.

Ohio State Dental Society, Columbus, Ohio, December 7, 8, 9, 1909.

Oklahoma State Dental Society, Oklahoma City, Okla., June 3, 4, 5, 1909.

Utah State Dental Society, Logan, Utah, June, 1909.

Vermont State Dental Society, Rutland, Vt., May 19, 20, 21, 1909.

West Virginia State Dental Society, Wheeling, W. Va., October 13, 14, 15, 1909.

Wisconsin State Dental Society, Milwaukee, Wis., July 13, 14, 15, 1909.

**ALABAMA DENTAL ASSOCIATION.**

The fortieth annual meeting of the Alabama Dental Association will be held in Anniston, Ala., May 11-13, 1909.

The program will be an exposition of present day methods of practice. Make your arrangements now to attend.

E. W. PATTON, Sec'y.

1010½ Broad street, Selma, Ala.

**ILLINOIS STATE BOARD OF DENTAL EXAMINERS.**

The next regular meeting of the Illinois State Board of Dental Examiners for the examination of applicants for a license to practice dentistry in the state of Illinois will be held in Chicago, at the Chicago College of Dental Surgery, southeast corner of Wood and Harrison streets, beginning Thursday, June 10, 1909, at 9 a. m.

Applicants must be possessed of the following requirements in order to be eligible to take the examination: (1) Any person who has been engaged in the actual, legal and lawful practice of dentistry or dental surgery in some other state or country for five consecutive years just prior to application; or (2) is a graduate and has a diploma from an accredited high school or a certificate signed by a state superintendent of public instruction or his duly authorized deputy or equivalent officer, acting within his proper or legal jurisdiction, showing that the applicant has a preliminary education equal to that obtained in an accredited high school, and is a graduate and has a diploma from the faculty of a reputable dental or medical college, school or dental or medical department of a reputable university and possess the necessary qualifications prescribed by the board.

Candidates will be furnished with proper blanks and such other information as is necessary on application to the secretary. All applications must be filed with the secretary five days prior to the date of examination. The examination fee is twenty (\$20) dollars, with the additional fee of five (\$5) dollars for a license. Address all communications to J. G. Reid, secretary, 1204 Trude Building, Chicago, Illinois.

**KENTUCKY STATE DENTAL ASSOCIATION.**

The thirty-ninth annual convention of the Kentucky State Dental Association will convene at Crab Orchard Springs, Kentucky, May 17, 18 and 19, 1909.

We anticipate a most interesting and profitable meeting at this most popular central Kentucky resort. A cordial invitation is extended to all ethical members of the profession.

W. M. RANDALL, Secretary.

#### MISSOURI STATE DENTAL ASSOCIATION.

The fourty-fourth annual meeting of the Missouri State Dental Association will convene at Kansas City, Missouri, May 26, 27 and 28, 1909. A good, live program is in course of preparation. Respectfully,

J. F. WALLACE,

Corresponding Secretary,

Executive Committee—C. C. Allen, chairman, Kansas City; F. G. Worthly, Kansas City; D. D. Campbell, Kansas City.

#### STATE BOARD OF REGISTRATION AND EXAMINATION IN DENTISTRY.

The New Jersey State Board of Registration and Examination in Dentistry will hold their semi-annual examination in the assembly chamber of the State House, Trenton, N. J., beginning Tuesday July 6th, and continue through the 7th and 8th. Practical examination held on the 6th, theoretical examination on 7th and 8th.

Practical work consists of soldering a gold or silver plate, one gold filling and one amalgam filling. Gold filling must be an approximal with an approximating tooth in position. Candidates requested to bring their patients. Photograph and preliminary credentials must accompany the application. Sessions begin promptly at 8 a. m., each day. Applications must be in the hands of the secretary ten days prior to the examination.

CHARLES A. MEEKER, D. D. S.,  
Secretary of Dental Commission,  
29 Fulton St., Newark, N. J.

#### SOUTHWESTERN MICHIGAN DENTAL SOCIETY.

The annual meeting of the above society will be held at Kalamazoo April 13 and 14. Very truly,

C. V. JOHNSON.

#### INTERNATIONAL EXHIBITION OF DENTAL SCIENCE.

At Berlin, August 23-28, 1909.

##### GROUPS OF EXHIBITS:

I. Anatomy and physiology. 1. Comparative anatomy—(a) Anthropology and ethnology; (b) Comparative odontology incl.

paleontology; (c) Anomalies of the teeth of animals. 2. Normal macroscopical anatomy of man (anatomy and development of the head, jaws and teeth incl. specimens of the laws and teeth). 3. Normal microscopical anatomy. 4. Anomalies of anatomical development (anomalies of the development of the head, jaws and teeth). 5. Physiology.

II. Pathology and bacteriology. 1. General pathology. 2. Special macroscopical pathology including comparative pathology. 3. Special microscopical pathology. 4. Bacteriology of the mouth.

III. Surgery of the mouth and jaws. 1. Surgical therapeutics incl. narcosis and local anesthesia. 2. Surgical prosthesis incl. obturators.

IV. Orthodontia.

V. Preservative treatment of the teeth. 1. Fillings. 2. Root treatment.

VI. Prosthetic dentistry. 1. Plate work. 2. Crown and bridge work incl. ceramics.

VII. Photography in dental surgery as means of investigation and instruction. 1. Macroscopic photography. 2. Microscopic photography. 3. Stereoscopy. 4. X-ray photography. 5. Photography in colors.

VIII. General dental education, post graduate instruction, educational appliances.

IX. Hygiene of the mouth and the teeth—(a) from the scientific, (b) from the social point of view.

X. History of dentistry (instruments, pictures, in short everything of historical interest for dentistry).

XI. Dental jurisprudence.

XII. Literature—(a) original works; (b) periodicals.

The executive committee.

PROFESSOR DR. DIECK, Chairman.

#### EASTERN INDIANA DENTAL ASSOCIATION.

The 1909 meeting of the Eastern Indiana Dental Association will be held at Marion Ind., May 5th and 6th.

The 1908 meeting was postponed that the members might join in the big jubilee meeting of the state society, and the meeting this year is expected to be a record breaker. Clinics are to be the big feature.

LEONARD STRANGE, President.

## N. D. A. MEETING, BIRMINGHAM, ALA.

My Dear Doctor: The next annual session of the National Dental Association will be held in Birmingham, Ala., commencing the last Tuesday in March, 1909.

The object of this letter is to extend to you a most cordial invitation to meet with us at this time. The yearly convention of these societies have a well-earned reputation for being full of life and ginger.

Birmingham in early spring is one of the most attractive cities of the South, has the finest hotels, and in many other ways is an ideal place in which to hold the meeting.

We are to have one of the best meetings ever held in this country. Come, if you have to use your "trilbies"—it will pay you. There will be a large number of selected clinics—essays on practical subjects by the most eminent men. Ask yourself if you can afford to miss this meeting.

We will forward you a program is a few days. It will be filled with good things for your special advancement and edification.

Come, there will be something for you—unto every man according to his needs. Again we say, come and *help* and be *helped*. Be a piece of radium and radiate. "He that lives by the hammer shall die by the hammer."

Yours fraternally,

L. F. LUCKIE, Chairman, Birmingham, Ala.

C. M. BARNWELL, Atlanta, Ga.

A. J. COTTRELL, Knoxville, Tenn.

A. T. REEVES, Selma, Ala.

I. B. HOWELL, Paducah, Ky.

Committee.

Paducah, Ky., 1909.

## INDIANA STATE DENTAL ASSOCIATION.

The fifty-first annual meeting of the Indiana State Dental Association will be held at Indianapolis June 29-30 and July 1.

Plans are being perfected to make this the greatest strictly state meeting in the history of our society.

OTTO U. KING, Secretary.

Huntington, Ind.

**MICHIGAN STATE BOARD OF DENTAL EXAMINERS.**

The next meeting of the Michigan State Board of Examiners for the examination of candidates for license to practice dentistry in Michigan, will be held at the Dental Department of the University of Michigan in Ann Arbor, beginning Monday morning, June 14, at nine o'clock. Applications must be in the hands of the secretary at least fourteen days before the examination. Application blanks and rules governing examinations will be furnished by any member of the board.

A. B. ROBINSON, Sec'y-Treas.

**MINNESOTA STATE BOARD.**

The Minnesota State Board of Dental Examiners will hold a special meeting for the purpose of examining applicants for license on June 7, 1909. Meetings will be held at the Dental Department of the State University, in Minneapolis, Minn. All applications must be in the hands of the secretary by May 28.

For blanks and further information address

Lake City, Minn.

DR. GEO. S. TODD, Secretary.

**ILLINOIS CIVIL SERVICE COMMISSION.**

Examinations for Dental Interne will be held May 6 in Chicago, Springfield and Belleville. They will be open to men and women over 21 years of age. The scope and weights: Technical questions on Anatomy of the Head and Neck, Dental Anatomy, Operative Dentistry, Prosthetic Dentistry, Dental Pathology, Oral Surgery and Oral Hygiene, 7; Experience, 3. Requests for applications should be addressed to the Illinois Civil Service Commission, Springfield. All applications must be filed by May 1.

JOSEPH C. MASON,

Springfield, Ill., Feb. 10, 1909.

Chief Examiner.

**OHIO STATE DENTAL BOARD.**

The regular spring meeting of the State Dental Board of Ohio will be held in Columbus on June 15-18 for the examination of applicants for license.

All persons wishing to enter practice in this state must make written application for examination.

Applications must be in the hands of the secretary at least ten days before the date of the examinations and must be accompanied with the fee of twenty-five dollars (\$25).

For blank applications and further information address  
F. R. CHAPMAN, Secretary.  
305 Schultz Building, Columbus, Ohio.

#### SEVENTH DISTRICT DENTAL SOCIETY.

The Seventh District Dental Society of the State of New York will hold its annual meeting in Rochester, N. Y., on the 16th and 17th of April at the Seneca Hotel.

Plans are under way to make this the largest and most attractive meeting in various points of interest, which has ever been held in New York state, and all the dentists within a radius of 300 miles will be greatly benefited by coming.

There will be a large number of clinics at the chair and also table clinics, and several interesting papers will be read.

The manufacturers of dental instruments and supplies will also aid in making this a large meeting, and a most cordial invitation is extended to all who will come.

In the hope that you will favor us in this we are,

Very truly yours,

LEWIS S. GOBLE,

E. L. SCHLOTTMAN,

C. A. THORNE,

C. W. LASALLE, Secretary.

Rochester, N. Y.

#### NOTICE.

The pamphlet upon "The Mouth and Teeth," published by the National Dental Association, is now ready and can be secured of Dr. C. S. Butler, secretary N. D. A., 267 Elmwood avenue, Buffalo, N. Y.

Price 50 cents per hundred.

J. D. PATTERSON, Chairman Com.



## ABSTRACTS AND SELECTIONS.

### SUCCESSFUL PRACTICE BUILDING.

BY OTTO U. KING, D. D. S., HUNTINGTON, IND.

#### BOOKKEEPING.

I have experienced a great deal of satisfaction from the double-entry bookkeeping system, used with both the books and cards. I have noted that bookkeeping not only relieves the worry and gives one a feeling of satisfaction and confidence in himself and his business, but it promotes order, thoroughness, regularity and honorable methods of business.

All my regular bookkeeping is by the use of the day book, cash book, journal and ledger.

#### RECORDS.

Besides this we keep a card system of records of each operation, with name, address, date, etc., and with the kind of material used, and a diagram of the teeth showing the exact location of the operation. I have purchased a large Macy Card Index Filing Cabinet in which all closed card accounts are kept, so that in a moment's notice we can secure the record of every patient, and every dentist knows the clinical advantage of such records, and then the satisfaction you receive when you kindly but firmly impress upon an erring patient that your records prove that the other fellow's filling dropped out, but that yours still remains steadfast and unmovable. I have saved many times over the cost of my records from these forgetful patients alone.

Another very important advantage of keeping records relates to the rendering of accounts.

No dentist or business man can keep his affairs in a systematic or satisfactory order who fails to make and preserve accurate records of all his work. To me it is a great stimulation to better work when at the close of the month I make out my trial balance and ascertain my weak places. You know exactly how much you are making on

your bridge work, plate work and every phase of your work. Each tells its own story of profit or loss, and then you know where to strengthen your business and hence measure your income.

#### EXAMINATION.

When a patient enters your office make a thorough examination of the teeth and note the dental service needed on an Allen examination pad, mark these cavities so the patient can see it, for few have any idea of the number of fillings needed. I believe in most cases it is best to give them an idea of the cost, for I have made it a rule of my life to never allow a person to do any service for me without first agreeing on the cost to me. This rule, strictly adhered to, has saved many annoyances, and so I try to give my patients the same privilege, for I learned from experience that if you have a definite understanding as to fee and patient's ability and method of payment before any work is done that there would be no misunderstanding when the bill is presented for payment. These examination blanks may be used to indicate the work as it is completed, also to transfer the record with the charges to the diagrams on the permanent card at the close of the day, so that it will always indicate to you the work done and save your making an examination of the teeth at every sitting.

#### COLLECTING ACCOUNTS.

The greatest evil in the dental practice is that of long credits, and yet with the customs as they are today in most communities it is frequently necessary to extend credit to some patients. Nevertheless we should make it apparent to our patients that we are opposed to unlimited credit, for every dentist must bear in mind that to pay his own bills promptly necessitates prompt collections.

The successful dentist will be the one who not only understands his profession, but who has a keen insight into human nature, so as to be able to collect accounts, even those of long standing, without offending the patient. Some time ago I asked a prominent dentist in northern Indiana how he collected his accounts and still keep his patients so loyal to him. He replied: "Expect people to pay." This is the best method to pursue. Make it apparent to them that you never had any other thought but that they would pay. If they are getting slow, make it your business to warm up to them, and when things get a little doubtful get more friendly, take special

interest in their welfare, children, business, etc. Stop them on the street and make inquiry about their interests. Never lose your temper, but wear one of those smiles that will not come off. You haev lost half the battle when you "give them a calling down." However, I would not have you think that I do not believe in being firm, for there are cases, I suppose, where some find it necessary to resort to the law.

As a rule a dentist should mail a statement to each of his patients on the first of every month, making notation of it on their card, so that if no response is made in a reasonable length of time you can, on the billhead or otherwise, call special attention to their account. I find that most people will pay promptly if I am prompt and systematic in my method of collecting.

#### **BILLHEADS.**

The billheads should be printed on a good grade of paper, not on the same generally used by a butcher or blacksmith, for the difference in cost between the best and poor grade is so trifling that a dentist who desires the better class of patients will not care to reflect his artistic taste by economizing on his stationery.

These accounts should not be itemized, but read simply: "For professional services," and then on the lower border I have printed this little notice (which was suggested to me by Dr. C. N. Johnson in his book "Success in Dental Practice"), "A diagram is made of every operation. This with a detailed statement of all accounts is kept at the office, where the patient may examine it at any time."

#### **FEES.**

Whether you regulate your fees by the hour or by the operation, remember that to establish in your community a reputation for being the highest priced dentist in your town is often one of the best advertisements. It is true it may drive some people away, but if your prices are within reason you will attract the more desirable patients. Of course a dentist must have skill to do the artistic work that will make people anxious to pay the larger fee. The dentist whose fees are lower than his neighbor's the public would naturally suspect of not being so competent a workman, and hence he attracts to himself the lower strata of humanity.

I think a dentist, as he becomes more proficient in his profession, should gradually raise his fee. From his system of book-

keeping he finds in what particular work the fee should be increased to net him a larger financial return, so that little by little, without any blow of trumpets, he is gradually increasing his financial returns, weeding out undesirable patients until a permanent and remunerative practice is established among the best paying patients.

#### LADY ASSISTANT.

The greatest missionary of refinement in the world today is the presence of women in the business world. Their ladylike reserve commands respect and will add much to the refinement, neatness and attractiveness of a dental office. Many lady patients hesitate to enter a strange dental office, but with a lady assistant in the office this feeling is allayed. I feel that outside of the great service they may render, their very presence in any dental office is a great drawing card.

#### PRACTICAL METHODS RECOMMENDED.

I know some dear brothers have before this time, to some extent, lost interest in this paper because of the seemingly hard methods recommended, especially those on bookkeeping and collecting, and have been fanning themselves into ease of conscience by saying, "Too much red tape," and "How do you expect a dentist to be an expert bookkeeper, etc." Now every method I have advised we have made a practical demonstration of its value. I have not dished out to you a lot of theories, but up-to-date system in a dental practice, only those methods used by all leading business men today, and instead of belittling ourselves by pleading ignorance and inability to accomplish what others have accomplished, let us straighten ourselves up to our complete manhood and see our possibilities and then take on a new spirit of determination to dig to the very bottom of things, which will mean to us a broader outlook and greater financial success.

#### DON'T BELITTLE YOURSELF.

Gentlemen, it positively wounds my pride for our profession when I hear a dentist on the floor of a convention say that he has no time and patience for the treating of children's teeth, or that plate work can be done as well by a dental laboratory. I grant that this is often true, for a great deal of our plate work is a disgrace to dentistry. They say there is no money in prosthetic work. Then when it comes to orthodontia many are too willing to recommend

even the most simple cases to a specialist or let a patient go through life with a disfigured physiognomy. It seems to me that it is high time that we are waking up not only to our duty and privilege but to our opportunity, for the secret of success in life is to be able to see an opportunity and then being prepared to make the most of it, and those who make the most of opportunities make the most money. There is no theory about this; we see it demonstrated every day. I know dentists who say they think certain cases should be turned over to a specialist, that have time to stand on the street corner talking politics, discuss other subjects at the club and loaf elsewhere.

What some have accomplished others may do if willing to pay the price in concentrated purpose, pluck and perseverance.

#### HAVE A PROGRAM.

Every dentist should make a mental program of his day's work for the first thing in the morning and then make a business of accomplishing this work. Such a plan helps to keep the work moving and each day sees definite progress made. A dentist should not permit his work to accumulate, even though he be compelled to work late in the evening. "Do it now," is an excellent motto to stimulate one when he begins to lose interest in his work. When you begin a piece of work complete it. Don't let it drag along or permit patients to delay work. Finish it as soon as possible, and the collections are more easily made.

See to it every morning that you are in perfect tune with yourself and the world before you ever leave your home for the office. Mental discord is fatal to quality in work. The man who goes to work feeling out of sorts with everybody is in no condition to do the taxing work required of a dentist. Did you ever notice how, when you are in harmony, you feel like a giant; then it is that you are ready to meet the duties of the day?

#### TIME TO THINK.

Dr. G. V. Black suggested to the graduating class of '97 that we should early get the habit in our profession of devoting the first hour of the day to study, saying that he knew very well what this method of study had done for him. Carlisle has said that "The true university of these days is a collection of books."

Every dentist should be a subscriber for from four to five dental magazines, and then read them. Some dentists say they haven't time to read. It does not pay to be too busy. Unless a dentist has some time to think he loses a great measure of mental growth. Quiet thought is refreshing to the busy man. Too many spend their time from their work in an endless round of social and pleasurable activities. From a strictly business basis this does not pay, for the mind loses thoughts and ideas that might open up new opportunities.—*Dentists Record.*

---

### LIMITATION OF CASTING MACHINE.\*

---

BY W. E. KENNEDY, D. D. S., INDIANAPOLIS, IND.

---

The subject of this paper is rather misleading, perhaps, but the intent is not to place or draw any particular line that we must not go beyond. Rather the range of the casting machine is so far-reaching that limitation is inconceivable. However, in all dental operations the operator is himself limited and in casting inlays we have no exception to the rule. Herein, then, is the subject matter of this paper.

I wish to give ample credit to the inventor of the casting machine, for a great achievement has, indeed, been done and the good and many advantages of its use are unmistakably far-reaching. Many are the hours saved to operator and patient; tiresome, laborious operations made simple, with results often more satisfactory and permanently obtained. But I believe that in all the good that comes to us there is accompanying it at times an attendant evil to others. These others, perhaps, are the weaker beings; hence we still employ the old adage of "the survival of the fittest." I wish to particularly point out this attendant evil and see if there is not something we may do to overcome it.

It may seem strange that failure may come to some along with this the greatest invention of modern dentistry—an invention that revolutionizes many good and long-employed methods. I believe there are those who will fail, or at least fall far short of success, by the heedless employment of the casting machine.

---

\*Read before the Northern Indiana Dental Society, at Fort Wayne, September 8-9, 1908.

Long since I have contended that the beginner in dentistry should, as early and as rapidly as possible, strive to attain manipulative skill. This very necessary requirement, I also contend, is best developed by long experience in gold fillings. If we go over our path of training through past years and compare our present deftness of hand and touch with the slow, awkward stumbling of our beginning and remember and note how slowly but surely the evolution took place in our finger craft, I doubt if there is one present who will not say with me that the slow, painstaking manipulation of small pieces of gold foil or fiber into a well-contoured and condensed filling has been the greatest factor in that development of all things else. Let us, therefore, work, gentlemen, for a higher perfection. Let us insert gold fillings and many of them, for I truly believe it is our salvation. Skill, not speed, should be our motto. Skill should be sought first rather than machines and devices that will hasten or make less our labor.

Manipulative skill is a prime requisite in all dental operations, in cleaning teeth and in prophylaxis, in cavity preparation and insertion of fillings, in pulp extirpation and canal filling, and last but not least in the difficult manipulation of the wax for an accurate model for the gold inlay. Let us work out our salvation along the lines pursued by our able predecessors. In so doing we will develop another quality as all-important as skill, namely, judgment.

Lack of judgment is a second attendant evil that may accompany the advent of the casting device among the young inlay workers. There is no better way to develop our judgment than by doing dental operations of all kinds as done by our grand old masters. We have all inserted a large gold filling only to see it rock or dislodge before its completion. Something was wrong, but what could teach us better that a square base and parallel walls were necessary to retain that filling? Judgment grows with a bound with every one of these failures, and the more so because of the attendant labor. Judgment as to strength of tooth, cavity preparation and proper contour in restoration is as necessary as the tooth to operate upon. The mere procedure of some kind of cavity preparation, with some kind of wax model, and a resultant some kind of cast inlay set with a cement is pitifully insufficient; judgment should accompany every detailed step. Poor man who lacketh judgment, and alas!

moreover, poor patient. Gentlemen, long, strenuous work of the laborious gold filling route is the stage-coach route to skill and judgment. The hardships along this rock-ribbed road will drive home impressions that will crown our efforts with success. The palace car service via the inlay route will develop few skilled and finished operators. The too easy doing of a thing once requiring strenuous labor and accurate judgment lulls the would-be aspiring operator into the coma of sluggishness and before he awakens the wreck train is clearing up his mistakes.

Unmistakably there is a woeful display of poor judgment in inlay work. We seem prone to overlook at least some of the essentials and trust too much to powers that be. The same inglorious mistakes are being made with the gold inlay as were made by the beginners of porcelain. The fact that the filling is to be placed with cement causes many to depend too much upon the latter to retain the filling. They also feel they are licensed to leave decay where the cavity is highly sensitive or overlying the pulp.

Extension for prevention is likewise overlooked. Also the flat base with parallel walls are too seldom obtained. Why these primary essentials of cavity preparation are overlooked is unexplainable. There is no reasonable excuse. It resolves itself to indifference, unconsciousness or dumbness of the man with the hoe type.

The same sane judgment should govern us in this work as is exercised in the best gold and amalgam work. First, we should always separate where decayed teeth have knuckled, that proper contour may be restored and the inlay properly set and polished. There are many methods, as you know, but I wish to mention one I use in extreme cases. Say the first superior molar is decayed mesially, second bicuspid is decayed mesially and distally, first bicuspid decayed distally. The arch is very crowded and the three teeth named, by knuckling, are trying to occupy the space required for two. Secure as much space as possible in one or two sittings, partially prepare cavity in second bicuspid, make an inlay for same and set temporarily. This gives something to push against and additional space is more readily gained and is a great assistant in retaining space while permanent inlays are being made.

Extension for prevention should be practiced with a free hand. All margins should be self-cleansing and the base of the cavity should be carried well toward and, in some cases, under the gum.

The latter extension is often advisable where the inlay is to be used as anchorage for bridge work.

Third, removal of all decalcified dentin at all times and under all circumstances. I believe there is no retreat from this requisite whatever.

Finally, obtain a flat base, parallel walls with slight mechanical retention in cavity proper and in step. Use cement to true the walls when necessary or to give additional pulp protection.

With a cavity properly prepared our inlay technique begins. This has been ably discussed numerous times, but do we accomplish the detailed procedure satisfactorily? The greatest difficulty I have experienced is getting the wax to pass entirely to and completely fill the base of a deep approximal cavity. I believe we fail in this more often than we realize. Most operators have a way of their own of accomplishing this particular detail. But whatever the method, do it. Use the magnifying glass and see and know that you have done it, and if you have not, throw the wax aside and try till you do accomplish this end: The technique of modeling the wax should be absolutely thorough, a smooth, dense wax model properly carved and contoured with the all-desirable feather edge at all margins must be obtained to insure the desired results. The way to do this is simple. Do it your way. Work at it and think while you work.

It is true many valuable points from others may assist you, but it is up to you to execute them. Space forbids my giving the technic of making a wax model. Diligent effort and thought will do you more good than anything else. Give attention to detail and after procuring a good model the procedure that follows is simple enough.

Summarizing, I wish to say that I do not discourage the use of gold inlays or the casting machine. The young man should purchase a good machine at his first opportunity. It is a most necessary acquisition. It has many advantages in crown and bridge work, the casting of cusps and numerous other prosthetic appliances. He should make some inlays also, but never resort to the latter too frequently. There is a limit to their use and we should all use discretion. If we think a gold filling would serve better in a particular case, let us not shirk the task but insert the gold filling. If we do this, we will resort to the gold filling frequently enough that it will not become a lost art as many predict. The auto-

mobile has not, and I think will not, push the horse off the earth. Neither will the cast inlay supplant the gold filling. They all have their place, and rightly. So, let us use the best that is to be had in the best way we can and, as is always the result, the best will prevail.—*Digest.*

---

### SOME PRINCIPLES OF RETENTION.

---

#### Introduction.

---

MARTIN DEWEY, M. D., D. D. S., KANSAS CITY, MO.

---

In writing these articles on retention, I will have to follow the set plan and state my object in writing the same. It has long been the custom of all great writers before beginning any extensive work or even a single book, to plainly set forth the "why" and "wherefore," where they started and where they expected to end. It may be that this will start nowhere and end in the same place, but I will have accomplished one object. As Mark Twain has said, "I will see my works in print."

There is little doubt in my mind that some of my friends will accuse me of the aforesaid object, but I will accuse myself of it before they do. Having priority to the claim they will be then forced to give me at least credit for one original idea in the articles.

Dr. Norman W. Kingsley in a letter to the Alumni Society of the Angle School of Orthodontia called attention to the fact that the real problem of orthodontia was that of retention. As he says, that regulating appliances have been perfected and the system of facts have been worked out until it is possible to move teeth in any direction, but to keep them there is another thing. He has briefly shown the importance of retention.

When one really grasps the meaning of his words it becomes very apparent that retention, one very important step in orthodontia has been neglected. Why this is so I will show you later.

A brief review of the literature will show much progress in many lines. In fact perfection seems to have been reached in some things. For example, the study of occlusion as the basis of orthodontia is better understood now than it was a few years ago. The principles,

laws, and forces of occlusion have been worked out until very little remains except of what we will learn from the study of Comparative Anatomy and Histology. Many articles have been written on the above subject and much discussion has taken place, but not so with retention.

Etiology has also received attention. Our knowledge of the causes of malocclusion has increased greatly within the last ten years. At each meeting devoted to the study of orthodontia we find one or more papers on etiology. No longer do we find the inheritance of large teeth and small jaws given much importance, and we may hope that soon we will be unable to find any one speaking of the inheritance of cleft-palate, prognathism, orthognathism, or the forward position of the upper first molars. Acquired and congenital causes have been divided and the literature is quite well filled with the articles dealing with the why and wherefore of certain things. Classification of malocclusion has received attention and I do not think that it will ever be improved upon. Others may adopt private and personal classes and make hypothetical classifications, but the position of the first molars will always remain the true basis. Some may take other standards, as in one case where articulation has been made the basis of orthodontia, but the success of false ideals is very short.

Anchorage also has been classified along scientific lines\* dif-

---

\*Angle's classification.

ferent principles have been described to such an extent that it is possible to convey a definite idea in a few words without description of mechanical appliances. When we speak of simple, stationary, or any of the forms of anchorage the idea is immediately conveyed to our listener, providing they are familiar with orthodontia. Nothing need be said in regard to the mechanical side of anchorage, for if one knows the principles of anchorage the mechanical device will be very easily constructed. But not so with retention. If we speak of compound reciprocal retention the majority will have little idea what we mean. Some years ago it was said that regulating appliances would be simplified to such an extent that they would be kept on sale at dental depots. At the present time they have been so perfected that very little more can be hoped for. That they are very near perfect is proven by the fact that the so-called improved regulating appliances have often been steps backward instead of forward. The

majority of them have been placed on the market by the manufacturers and inventors with the thought of making a few cents even if they were forced to infringe upon somebody's idea. The requirements of regulating appliances are so well understood that nearly all know what to look for when purchasing them. Everything that I have said in regard to regulating appliances may at some future time be said in regard to retaining devices. Some time, we may even be able to buy standard retaining devices, as we are now able to purchase regulating appliances.

If one was to read what has been written in the past on retention they would learn very little that was truly scientific. The articles are few and almost without exception have dwelt with some one's "pet" retaining appliances rather than the principles of retention. Look over the programs of the meetings which have paid attention to orthodontia and retention is crowded to the background. Even with the American Society of Orthodontia papers on retention have been very few. Notice the proceedings of the third meeting of that society and the only paper on retention died without discussion. However, the classification there given has lately been revised to meet the idea of one writer, published in a text-book, but no reference made to what was the first attempt, so far as I know, at a paper on retention, devoted to the principles of retention. Articles on retention are few and they very much resemble the early writings on orthodontia, when appliances were shown and no reference made to the scientific side of the case.

A great many of the regulating appliances have been shown on paper with which it would have been impossible to have accomplished the shown result. Likewise with retainers; cuts have been made, clinics have been given and not one word said as to the principle, why it was so constructed, or what scientific value it had over other retaining devices. Occlusion is the basis of orthodontia, and I will also say that it is the basis of retention. All will agree with me that we must have the proper occlusion in order to get the teeth to remain where we want them. The forces of occlusion which are the normal relation of the inclined planes, harmony in the size of the arches, and normal muscular pressure must be had; but we must have more than that. In order to understand retention one must be familiar with the growth of the dental apparatus. Are you not

tearing down the apparatus that nature built and trying to build a better one? In order to do so you must know what forces and factors will aid you in holding the teeth in the proper place after they have been put there. It has been said that occlusion would hold teeth in place, which is true, but we must have more than the normal relation of the incline planes, for occlusion is more than that. It is as impossible to give a perfect definition of occlusion as it is to define "good." One question which has been asked over and over is, "How did you retain it?" The question used to be, "How did you move them," but it is now given way to that of retention. If you should give the principles, the question would be, "What appliance did you use?" If the principles of retention were mastered the appliance would be a secondary consideration.

Some may have asked, do we have principles in retention? We do and they must be considered. To ignore them is to invite disaster and failure. The demand recognition the same as the forces of occlusion, and are as important. The mechanical side of retention can be classified the same as anchorage and it will simplify the construction of the retaining appliance. Natural and mechanical forces must be taken into consideration and the latter used to assist the former. A knowledge of the histology of the parts involved must be possessed and the mechanical retainer constructed to meet those demands. As our knowledge of histology increased we have had to depart from old ways. An example of such departure can be found in the "Principle of Retention," as given at the last meeting of the Alumni Society of the Angle School of Orthodontia. In writing the following articles on retention I will endeavor to show what retention is or should be, and the knowledge we should have of the subject. I will classify the principles and forces of retention, and will lastly show appliances which have been constructed according to those principles. I will give very little that is original and will try to give credit to whom credit is due. If I disagree with some one they will hold the grudge against me and not against the editor of this department or publishers of this journal. I will compliment the readers by using plain and simple language and if you do not agree with me you will at least understand me.—*The Dentists Magazine.*

**CONSERVATISM AS AN IDEAL IN BRIDGEWORK RESTORATIONS.**

---

BY FRED A. PEESO, D. D. S., PHILADELPHIA, PA.

---

I feel but little competent to deal adequately with the subject assigned to me—a subject of such great and vital importance, not only to the profession at large, but to the general public as well, to whom it is really of more vital significance than it is to ourselves.

Although I have worked and studied in this department of dental prosthesis for upward of a quarter of a century, nevertheless the conviction is more and more intensified in my mind that the unexplored regions of this subject are still greater than the whole territory which has been covered by the achievements of the present.

There are times when I feel completely discouraged by the realization of how little we really know and how much there is yet to be learned in this one branch. We are still working, as it were, in the early dawn, if not in the dark, and it is only by the hardest work and most earnest endeavor that we can hope to improve and advance the results of our efforts to anything merely approaching perfection.

Crown and bridge work is a comparatively new addition to our professional activities. It is barely thirty years since it first demanded serious consideration, and for many years following it was frowned upon by the better members of the profession.

Unfortunately, at the beginning a large number of unprincipled practitioners saw in it a new source of revenue, which they immediately proceeded to utilize, placing bridge work anywhere and everywhere, the only restriction to their operations being the inability of the patient to produce the necessary collateral.

Then, too, there were some really honest men who, carried away by the new idea and wishing to benefit their patients and perpetuate their names, did this work in ignorance of the relations of the mechanical stress involved and of the ability of the different teeth used as abutments to do the work imposed, with the result that the work became worthless after a short time.

This still further degraded this new art in the minds of the ethical dentists and of a large proportion of the more intelligent patients, to many of whom the mere knowledge of the fact that a

dentist would advise bridge work was sufficient to stigmatize him with the suspicion of quackery.

A few of the better men had visions of great possibilities for the future of this work, and it is to their labor and their efforts that we are today indebted for the legitimate survival of one of the most important branches of dentistry.

There seems to be a natural tendency on the part of dentists to be over-enthusiastic over the advent of a new or the resurrection of an old and forgotten idea or method.

When the use of amalgam was first introduced the over-enthusiastic dentist hailed it as a panacea for the ravages of caries, under all circumstances and conditions. It was placed in cavities anywhere and everywhere. Perfect gold fillings were removed and in many instances all the fillings in a mouth were taken out and replaced with amalgam. This amalgam consisted of silver coin filed away, these filings being mixed with mercury. It was known as "royal mineral succedaneum." Very little or nothing was known of amalgam, its manipulation or its properties. The dentists simply knew that these silver filings mixed with mercury made a plastic mass that could be pressed into a cavity like putty, which, when left to itself became hard. As to whether it would shrink or expand, whether it would disintegrate readily or as to what effect it might have on the tooth itself little thought was given—and many practitioners cared nothing at all as long as the result brought them money.

With the introduction of vulcanite we had an analogous condition of affairs. While in itself of inestimable value to the profession, the introduction of vulcanite was, in a way, a great blow to high-class prosthesis, one from which the dental profession has never fully recovered. The delicate skill and manipulative ability which had been requisite in the making of metal dentures was not considered necessary in the use of vulcanite, and from skilled craftsmen many degenerated into mere workers in plastics and became the medium through which quackery and incompetence expressed itself, to the great damage of prosthetic art and to the detriment of dentistry in the public estimation.

Still later came the porcelain fillings or inlays, which were preceded by glass fillings. Many of you have probably spent time in powdering in a mortar differently colored bits of glass with which to experiment on these fillings.

The advent of the porcelain inlays was hailed with the same enthusiasm as the "royal mineral succedaneum" had been, and it was in many instances followed with the same disastrous results. Gold was removed to give place to the porcelain inlay and many teeth were ruined.

The last of these innovations is the system of cast gold inlays and gold castings generally, while innumerable casting machines have been placed on the market, until it seems that the dentist who does not have some kind of original casting machine to sell is a sort of freak.

To quote the saying of an eminent sociologist in reference to another matter, "They have bred like wolves in a famine-stricken land."

This last idea of cast gold inlays is the most valuable of all that we have received for many years, and all honor is due to Dr. Taggart, of Chicago, who has spent so many of the best years of his life in working out and bringing to perfection a method which will prove of such inestimable value to the profession. But even this method cannot escape the inevitable fate of all new ideas; it must first be run to the ground and killed. It will go through the same course as amalgam, porcelain, etc. It will be used everywhere to the detriment of the patient; but, like water, it will find its level, and then we shall more fully realize what a boon it is to both dentist and patient, and the name of Dr. Taggart will in years to come be revered as that of a benefactor to his profession.

It is crown and bridge work, however, with which we have to deal, and I shall endeavor to confine myself to my subject.

I have touched but lightly on its early history. It is only within a comparatively few years that crown and bridge work has been generally taken up, and at the present time its value as a most important factor is recognized by nearly every dentist.

It has passed through the fad stage, but, alas! it has not yet reached the point where it is a universal blessing to humanity—in fact, I really believe that it is directly the opposite, and that more harm than good is done by its use.

This is largely due to the mercenary spirit of practitioners, who are still actuated only by the motive to get all they can from their patients, caring nothing at all as to whether the patient is benefited

or not. There are also many failures among the honest practitioners, due almost wholly to their lack of knowledge and of understanding of the principles involved.

There is hardly any branch of dentistry which is so little understood at the present time as is crown and bridge work. It is one that requires a most careful and thorough study, and consideration of all existing conditions. Everything must be considered, and nothing left to chance. Not only local conditions, but the general condition of the patient must be studied as well.

If the teeth are loose, why are they so? and can they, by proper treatment, be brought to a firm and healthy state? Is there any systematic condition which would predispose the patient to pyorrhea or to any disease which might affect the teeth? If the teeth are abscessed or diseased in any way they must first be brought to a healthy condition before we proceed with the mechanical part of the work.

#### NUMBER, POSITION AND CONDITION OF ABUTMENTS.

In building a bridge over a river the number, position and condition of the abutments are vital points for the life of the structure. If the abutments are built on an insecure foundation the structure will fall. If the foundation be all right and the abutments are made to support one hundred tons trouble is sure to arise if one thousand tons of weight be placed on the bridge. The same will happen if the number of abutments be insufficient; the whole work is wasted.

The same conditions apply to bridge-building operations in the mouth. The foundations must be perfect and proportioned to the stress which the bridge, when being used, imposes upon them, else you will see the structure collapse.

It does not make any difference how skilfully or how beautifully the prosthetic part of the work is done, the success of bridgework depends upon the fundamental preparation of the mouth.

#### RELATIVE STRENGTH OF TEETH.

The relative strength of the different teeth must also be considered. The cuspids and molars are the strongest and form the best abutments, but we cannot put the same amount of stress upon laterals, centrals or bicuspids, although these teeth will do their proportionate share of the work.

A tooth properly treated will do far more work than it was

originally intended to do, but we must not expect too much or we shall regret it.

Two roots of equal stability used as abutments of a properly constructed bridge will successfully resist twice the stress of mastication which either root can bear individually, and when we come to multiply abutments the ratio in which these combinations of abutments resist the stress of mastication seems to increase proportionately.

Articulation is also of the greatest importance. The abutments of a bridge which otherwise might have lasted for many years may be completely ruined in a short time by faulty occlusion.

The stress of mastication, which in some mouths is far greater than in others, must also be considered.

The shape of the arch, too, has a great deal to do with the lasting qualities of a bridge. A bridge in one mouth might last for years, while in another mouth, with exactly the same abutments and in equally good condition but with a differently shaped arch to place a bridge would be wholly inadvisable.

The fact that a bridge in contemplation would occlude with a plate would have a bearing on the utility of the work.

All of these things, and many more, must be conscientiously studied by the man who honestly desires to do the very best for his patients.

The lack of that success toward which all of us are striving is largely due to the lack of training in the fundamental principles. We must get at the root of things. We must understand the engineering principles upon which successful bridge work is of necessity founded and be willing to study and work hard if we ever hope even to approach the ideal. Even then there may be failures, but if we are honest at all times such failures will be progressively fewer.

We can not guarantee the success of our operations—nor have we any right to do so, any more than a physician can guarantee a cure—but, if we have conscientiously studied our cases and have done the work to the best of our ability we shall at least have a clear conscience, even though our efforts may not have been crowned with success.

As I have said before, the success of bridge work depends primarily upon the preparation of the mouth, and of this preparation

the shaping of the teeth and the fitting of the bands is a most important part. The lack of preparation and the subsequent evil results have been forced upon me many times. The teeth must be prepared so that the bands will hug the root at the neck tightly and cause no gingival irritation. If this be done the chances of successful results in our efforts are very favorable, but if the preparation be faulty we have no one but ourselves to blame for the failures.

It is astonishing how much abuse the pericemental membrane will tolerate in some mouths and how little in others. Let me cite an illustration: A full upper bridge was placed in the mouth of a Chilian in May or June. In the lower right jaw the first molar and second bicuspid were missing, the first bicuspid and second molar being in position. The molar was slightly decayed but was perfectly firm in its socket. The patient was obliged to leave the city and could not wait until the work was completed, so it was deferred until fall. While away the tooth troubled him slightly, and he thought he would have it crowned temporarily in order to keep it in good condition until the bridge was made later.

In October the patient returned to the city, and a most sorry condition of affairs existed. There had been practically no trimming of the tooth, the band had been forced over it, cutting into the gum and causing irritation and inflammation extending to the pericementum. The tooth was literally floating in pus, so that it was easily lifted out with the fingers. This result was entirely due to lack of preparation.

Another case, showing the opposite result, was as follows: The patient, an English lady, applied for treatment within the past few months. On her upper left first bicuspid a badly made gold shell crown had been fitted which it was necessary to replace with another. On removing the crown it was found that the tooth had been trimmed very little, if at all. The band was impinging on the gum, which showed irritation.

On removing the crown it was found that the pulp chamber had been opened and packed with cotton. There was a large perforation above the floor between the two roots. The pulps in both the buccal and lingual canals were alive and seemingly health. Notwithstanding these conditions, which had existed for three years, the root was quite firm. In most mouths a tooth treated as badly as this would have been lost after a few months at the longest.

## THERAPEUTIC VALUE OF BRIDGE WORK.

Aside from the restoration of the masticatory functions by properly made bridges and from the improvement of the patient's general health, the local therapeutic effect of the work upon loosened and diseased teeth is at times wonderful. Many times teeth which have become loosened from some cause, such as malocclusion, from being without an antagonist, from carrying improperly designed bridge work, from gingival irritation, etc., can be rendered perfectly firm by given them work to do in carrying a properly designed and executed bridge.

Do not give up a tooth until you have exhausted every effort to save it!

One of the most remarkable cases of recuperation that I have observed was the following: The patient was a lady about forty years of age, whose teeth had been neglected; it was found necessary to place four bridges in her mouth. In the upper left jaw there was a very loose cupid root which had been improperly crowned, the crown had been lost for some time and the root had broken and decayed away to nearly one-eighth of an inch above the gum, which was in a highly inflamed condition. In order to place a satisfactory bridge it was necessary to save the root if possible.

The gum was pushed away and with difficulty a band was fitted to it. The root was so loose that in fitting the band a sharp-pointed instrument had to be passed up over and beyond it and stuck into the side of the root to prevent it from being pulled out while removing the band. A removable bridge was anchored to this and a molar, the band of the cupid being nearly three-sixteenths of an inch deep, so as to bring it to the edge of the gum. The bridge was cemented in place, there being a space of about one-eighth of an inch between the face of the root and the floor of the cap filled with cement, the depth of the band making the facing short. This work was done a little over two years ago. The following fall the patient returned and the condition of the mouth was found to be most satisfactory. The cupid root had become nearly as firm as any tooth in the mouth. The irritation had entirely subsided and the gums were perfectly healthy, but the reduction of the inflammation had left the band exposed about one-eighth of an inch, or nearly to the face of the root. This was unsightly, therefore it was removed and another band and crown,

with a longer facing, was made and attached to the bridge, greatly improving the appearance. I saw the patient again about the first of July, when the mouth was in a perfectly healthy condition and the cuspid root as firm as any of the other teeth. This was a most unpromising case, but the result shows what can be done at times, even under the most adverse conditions.

I have mentioned these few cases to illustrate extreme conditions which we may at times be called upon to treat and which we must treat to the best of our ability.

Sometimes we will be called upon to do some work against our judgment, as, for instance, when a patient, having an insufficient number of roots for a lasting bridge, is willing to resort to any expedient which will put off the wearing of a plate. In such an instance the dentist might take chances that he would not take otherwise, but he should have a perfect understanding with his patient as to his position regarding the durability of the work.

Bridge work unquestionably has proved to be a blessing to humanity—to both patients and dentists. To the profession it has been of inestimable value in that it has counteracted, to a great extent, the effects brought about by the use of vulcanite; for we are again becoming skilled in the working of precious metals, which for a time seemed a lost art, and today there are probably as many or more skillful gold workers among the dentists than there were before.

Bridge work must be regarded as a conservative measure, where it is indicated and when the work is properly done it is the very best thing a dentist can do for his patient and nothing can fill its place, but in the reverse conditions it is the very worst thing and nothing will ruin the mouth so quickly.

We must be conservative in all our dealings and our operations, and this we shall be if we are perfectly honest with ourselves, but there will always be dishonest men who will do anything if only they receive money for it.

We are all faddists to a certain extent, but we must not carry our fads to extremes. We can feel sympathy or even admiration for the honest and ignorant faddist, but we have only contempt for the dishonest, be he ignorant or wise.—*Dental Cosmos*.

**A RATIONAL TREATMENT FOR PUTRESCENT PULPS.**

---

BY B. H. HARMS, D. D. S., BELLE FOURCHE, SOUTH DAKOTA.

---

I wish to call your attention to one of the most interesting conditions which we as dentists are called upon to treat.

Putrescent pulps for a great many years have been treated empirically; that is to say, some agent has been used and a result brought about, but just how that agent acted in the given case was not known.

When conditions are treated rationally we know, in the first place, just what we have to deal with, and in the second place we know just how a certain remedy will bring about a result.

For as rapid an advance as dentistry has made in the past few years, the field of pharmacology, which treats of the action of remedies on the tissues of the body, has been more or less neglected.

In bringing this subject before you time will not permit me to go into any lengthy explanation of the chemistry of pulp decomposition. As briefly as I can I will try to explain the breaking up of the pulp tissue, and before I close I will show, by the use of a few chemical tests, how certain agents act upon the decomposed pulp tissue.

**DECOMPOSITION OF PULP TISSUE.**

The pulp tissue does not in its normal state differ materially from a chemical standpoint from other animal tissue. It is composed of carbon, hydrogen, nitrogen, a little sulfur, and sometimes a little phosphorus is found in the protoplasm; and in the hemoglobin of the blood we find iron. All, or nearly all, animal tissue is composed of carbohydrates, proteids and fats, and we will assume that the pulp tissue likewise contains these compounds, although some men in the profession claim, though they have never proven it to be a fact, that one or another of these compounds is not found in the pulp tissue. In the decomposition of the carbohydrate compounds there is formed a gas in the root canal of the tooth, known as carbon-dioxid gas. And again by the putrefaction of the proteid compound, ptomaines are produced, and by the further putrefaction of the ptomaines, ammonia and hydrogen-sulphid gas are produced. So then, besides the ptomaines which are formed within the pulp canal, there are at least three principal gases formed, namely: Carbon-dioxid gas, which is produced from the carbo-hydrate compound, and ammonia gas and

hydrogen-sulphid gas, which are formed by the decomposition of the protein compound.

Now that we know what the gases are that are found in the putrescent pulp canal, we will select some drug which we know will counteract these gases and chemically change them into liquids and solids so as to render them harmless. The agent which when sealed hermetically in a putrescent tooth will act upon those gases is formaldehyde, in the form of a forty per cent solution in water, commercially known as formalin. With equal parts of tricresol, formalin makes an ideal remedy to use in case of putrescent pulps and will combine with tricresol in all proportions.

#### ACTION OF FORMALIN.

Now let us take up briefly the action of these drugs on the gases and putrescent material found in the pulp chamber and canals. When ammonia gas and formaldehyde gas are brought in contact with each other a chemical reaction takes place, and as a result there is formed a solid known as urotropen. Urotropen for medical purposes is made by the combination of these two gases and is used in medicine as a disinfectant, especially in the urinary tract. So, gentlemen, by the use of formalin we have changed one of the gases of the putrescent tooth into a solid, which is in itself a disinfectant and has no harmful properties. (Experiment.) Then again when formalin is brought in contact with the hydrogen-sulphid gas a chemical change takes place and the odor is disposed of. (Experiment.) If you will transfer the liquid which results from this chemical union to an evaporating dish and let it slowly evaporate, after you have given it time to drive off some of the water you will find that whatever is in this evaporating dish burns, and now it will not smell like either hydrogen-sulphid or formalin, but it does smell like wood alcohol.

It would seem that the main things with which we have to contend are ptomaines, hydrogen-sulphid and ammonia gas; that all we would need in the treatment of these conditions would be formaldehyde. And, as a matter of fact, formaldehyde alone can be used successfully in treating putrescent pulps. It should, however, not be used stronger than a ten per cent solution.

#### ACTION OF TRICRESOL.

But you will not have disposed of the fats. We believe we have fats; if not in the original tissue, we have them as a result of the

breaking up of that original tissue. We find in our *materia medica* that lysol is a good antiseptic, and that lysol was made by the action of cresols upon fats, and after fats had been acted upon by the cresols they were saponified by the use of alcohol, and as a result lysol was produced. Cresols resemble phenols. There are three cresols: Meta-, ortho- and para-cresol, and we have a liquid in commerce known as tricresol, which is a refined mixture of these three cresols. Tricresol is three times as powerful but only one-third as toxic as phenol.

Now, if lysol is produced by the action of cresols upon fats and then subsequently saponified by the use of alcohol, and if we have fats as a result of the breaking up of this pulp tissue, it seems quite possible that we might make something in the pulp chamber which has at least a relation to lysol. Therefore we select tricresol as a vehicle with which to dilute the formalin. First, because it will mix with formalin in all proportions; second, because it is itself a good disinfectant; and third, because we believe it acts upon the fats, making something which, if we will use absolute alcohol, as we always should for the purpose of drying the root canals, will become saponified and form a product resembling lysol, an antiseptic.

Thus we have a mixture which will not only dispose of the ammonia and ptomaines, but also of the fats as well, and dispose of all of these substances to advantage. The hydrogen-sulphid and formaldehyde unite, forming wood alcohol, which is poisonous to micro-organisms. Ammonia and formaldehyde also unite, producing urotropen, which is not a bad thing to leave in the tubular structure of the tooth. The action of tricresol upon fats, if you will subsequently saponify the product with alcohol, produces lysol, or something that has similar properties.

So then, gentlemen, you will get excellent results in treating putrescent pulps if you will use equal parts of formalin and tricresol.

#### METHOD OF USING FORMALIN AND TRICRESOL.

In using this mixture the following method of operating should be followed: At the first sitting the rubber dam is applied; if possible, open the pulp chamber thoroughly and see that the mouths of the canals are open; do not at this time attempt to remove any of the putrescent material from the root canals, as there is too much danger of forcing some of it through the foramen. Wipe out the pulp chamber and place therein a small pledge of cotton which has been

saturated in this solution; place another dry piece of cotton over this and seal with cement. Leave this in for two or three days, when you again apply the rubber dam, remove cement and cotton and at this sitting remove thoroughly the contents of the canals; dry them with alcohol and again seal in this solution for three days to a week longer. Or, if you wish you can seal in a milder solution, two parts of tricresol to one of formalin, as these two drugs will mix in any proportion. At the end of that time, if the tooth has not given trouble, and it will not have given trouble if you have done your part properly, the canals can be dried and filled.

There is nothing else, gentlemen, which you can seal in a putrescent tooth hermetically at the first sitting, except some preparations which contain formaldehyde, and not have the toothache.

Care should not only be taken in using this remedy, to see that none is forced through the tooth into the surrounding tissue, but also to be sure that each root canal contains a really dead pulp, for when formalin is brought into contact with living tissue it causes intense pain.

NOTE I.—According to the last Pharmacopoeia tricresol is now called cresol.

NOTE II.—I tender my grateful acknowledgment for favors and courtesies extended by Dr. J. P. Buckley, of Chicago, Ill.—*Items of Interest*, January, 1909.

## COUNTRY AND CITY DENTISTS.

Why do the best people in small country towns pass by their local dentist and at considerable inconvenience patronize his city brother? A young man who goes to a small city or town to practice is too apt to fall into country ways. He fails to realize and appreciate his opportunity to take with him business-like city ways. His dress, deportment, business habits and office equipment he fits to his surroundings, and he is apt to forget that his professional education should not end with the requirements of a right to practice. He caters to those who come first and are most easily satisfied, forgetting that to many of them he is their "Hobson's choice." He does what they like best, and so long as he can make both ends meet loses all ambition to do better. His city brother, meeting a keen competition, must keep well to the fore or go to the wall. He mingles with progressive business men and learns business habits; he is constantly on the alert to keep his office equipment as complete and modern as that of his professional neighbors, to do all or more than they can do, and to excel in ability and office attractions. City facilities and city conveniences he utilizes to the utmost. This makes his professional surroundings far more attractive than is that of his country brother, and gives the impression that he is a better dentist. Those seeking the best service pass by their neighbor's modest sign to patronize his city brother, and pay to him a far more remunerative fee, a fee their home dentist might have if they had in him the same confidence. Let the country dentist take to his country office the same office equipment and surroundings a city practice would compel him to provide, be progressive and ambitious to excel and to introduce to his neighbors a better grade of service than that to which they have been accustomed. He would then enjoy a larger income, live more comfortably at less expense, have more healthful surroundings, less worry, and a fairer chance of reaching "quitting time" with a comfortable bank account than his envied city brother, whose large fee must be pared down by a thousand and one expenses before he reaches the little kernel he can truly call his own, expenses the country dentist is not called upon to meet.—WILLIAM H. TRUEMAN, *Dental Brief*, December, 1908.



## MISCELLANEOUS

### GETTING HIS.

Mr. Joaker—I enjoyed a good laugh at the dentist's today.

Mrs. Joaker.—Laugh! What do you mean?

Mr. Joaker—He was filling another dentist's tooth.

### HAS A FLOWERY NAME.

Dr. Rose, the dentist, has a pretty flowery name, but if you have the tooth-ache our local dentist might be able to settle it.—*Egerton, Mo., Journal*.

### WHY HAS NO ONE THOUGHT OF THIS BEFORE?

Many difficulties and vexatious situations are overcome by using a new style of Dental Floss, the invention of Mr. John D. Cutter, who has been a manufacturer of Dental Floss for many years. The floss is made in flat ribbons instead of being tightly twisted as heretofore. By its use spaces between crowded teeth inaccessible with the old style of floss may be easily cleansed. Every patient should be supplied with Ribbon Dental Floss and instructed as to its use, and a great stride towards Prophalactic Dentistry will have been made.

### USE OF THE BLUE LIGHT.

The contrivance is a simple 16-candle power blue electric light globe arranged in a funnel-shaped tin shield which, at its mouth, is about four inches in diameter; this is extended about four inches and has at its end a round blue glass and convex lens. The round blue glass is used to disseminate the blue rays so that the patient may not know the simplicity of the apparatus, and I attribute no especial virtue to the lens. Dr. Watkins claims that in cases of acute abscess, impacted third molars and their associate lesions he has used the blue light with great effect, relieving the pain and causing the disappearance of the inflammatory condition usually attending this form of disease.—*Items of Interest.*

### VOLASEM.

The preparation is said to be composed of fluid extract violet, fluid extract strophanthus, fluid extract calabar bean or physostigmine

(physostigmine is the active principal of calabar bean). The violet is evidently used to mask the extremely bitter taste and somewhat unpleasant odor of the strophanthin and physostigmine. Strophanthin is one of the most powerful of the heart stimulants and has much the same action as adrenalin, i. e., stimulates the heart and slows the pulse. In volasem we have a preparation which given in a little water before the operation, assuring the patient that it will prevent an unpleasant effect, has a powerful mental as well as physiological action.—*Dr. W. H. Jones, Items.*

#### THE CALLING OF DENTISTRY.

The calling of dentistry, with the constant study of its special details to successful practice, tends too easily toward the development of the habit of living in a mental rut, and care is needed lest the dental idea grow to such proportions as to fill the horizon of thoughts. There are other things in the universe besides teeth, and yet the man who reads only dental literature, hears nothing of the world's business outside of dental meetings, and touches humanity only within the confines of the oral cavity, is likely to overlook some of the other important lines of human inquiry. He may be a finished expert within the walls of his office, but outside he is a grotesque monstrosity of one-sided over-development.—*Edward Kirk, in Cosmos.*

#### AN EFFECTIVE LIGATURE.

In cases where the clamp is objectionable for the retention of the rubber dam, and where the ordinary floss is not sufficiently bulky to prevent the rubber from drawing over it, a most admirable method of using the ligature is to first pass the floss through two pieces of rubber tubing, allowing one piece on the buccal and one on the lingual side of the tooth. This is much preferable to stringing beads on the ligature or using other agents, as already suggested. The tubing should be the smallest size sold at the rubber stores, the kind used for slipping over the bows of glasses where they rest on the ears. To insure against leakage, drop a little sandarac varnish between the tubing and the enamel on buccal and lingual sides.—*Dr. E. M. S. Fernandez, Review.*

## ETHICS.

Dr. Bogue calls ethics "that intangible but quite actuality called morals. The lower down in the scale of humanity the less the knowledge of morals, because there are no morals to have knowledge of; but as civilization advances, ethics, or the knowledge of morals, becomes more widely disseminated, until we reach a distinctly Christian community, when the science crystallizes itself into the aphorism promulgated by the Divine Healer, 'as ye would that others should do unto you, do ye even so unto them.'"*—Herbert Johnson, D. D. S., Western Dental Journal.*

## DENTISTRY DEVELOPING.

Dentistry is a developing profession, young, vigorous, resourceful, but not yet full grown. It has not yet arrived at that maturity of thought and action that characterizes a full adult condition, either in the sciences underlying and applying to its most useful development or from the artistic or the professional point of view. Yet its past is a history of great good accomplished, of great progress made. Its present is a forward movement all along the line. In this I do not speak without having taken observation and having made my reckonings. Careful inquiry among dealers shows that the trade in dental goods has more than doubled within ten years. Dental tradesmen on the road tell me they are finding new men in the smaller towns all over the country in places where dentists could not find employment a few years ago, that they are regularly buying goods and paying for them. This means that people who did not employ a dentist a few years ago are doing so now and paying for the service rendered. This again means that the service rendered is a better service than that rendered formerly and that the people are learning to appreciate that better service. Furthermore, just as we increase the actual utility to the people of the service rendered, will our people appreciate it more and the greater will be the number proportionally of our people who will make use of the dentist. This kind of development is going on faster at the present time than ever before in the history of dentistry. This is because we are doing better dentistry today, man for man, than ever before, and improvement will go faster as the years go by.—*G. V. Black, in Review.*

## PERSONAL AND GENERAL

**Bankrupt.**—Fred E. Smith, a dentist, in New York City has filed a petition in bankruptcy with liabilities of \$1,190 and no assets.

**Vulcanizer Explodes.**—Dr. S. G. Wolf, a dentist at Angola, Ind., was seriously injured when a vulcanizer exploded in his office recently.

**Will Specialize.**—Dr. Frederick Bogue Noyes, Chicago, announces that he has given up general practice and will devote himself to Orthodontia entirely.

**Dentist Bankrupt.**—Oscar B. Lundy, a dentist at Willow City, N. D., has filed a petition in bankruptcy with liabilities of \$8,392.41 and assets of \$6,137.25.

**Dentist for State Wards.**—A bill is before the legislature in Nebraska providing for dentistry for the State Wards in prisons and State charitable institutions.

**Fire.**—Dr. John Dunleavy, a dentist in East Douglass, Mass., suffered a considerable loss when the building in which he had his office was destroyed by fire.

**Burglar Arrested.**—Instruments and medicines found in his possession and identified as the property of Dr. O. J. Taylor led to the arrest of a man in Wichita, Kas.

**On Trial for Murder.**—A dentist in Roanoke, Va., has been placed on trial for killing a man whom he claims was responsible for the separation of the dentist from his wife.

**A Dental Trust.**—The dentists of Allegany County, New York, have published in the newspapers that in future the price for extraction will be 50 cents for the first tooth and 25 cents for each additional tooth.

**Dies in a Dental Chair.**—Edward Bliven, a 12-year-old boy in San Francisco, died under chloroform in the office of a dentist. The operation was on the teeth and the anesthetic was administered by a physician.

**Dentist Injured While Extracting.**—Dr. C. A. Wedge, a dentist in Canton, Ill., suffered a painful accident when a tooth which he had extracted flew from the forceps and struck him in the eye, cutting the eyeball and causing inflammation.

**Dental Trade Changes.**—The O'Brien-Worthen Company of St. Louis and Keokuk, Iowa, has purchased the business of the Marshall Dental Manufacturing Company, Des Moines, Iowa, and will run the business in connection with their other houses.

**Against Merger.**—The Fox River Valley Dental Society, at its recent meeting, decided against becoming a part of the State Society.

**May Be the Dental Thieves.**—Two men, a baseball player and a grocery clerk, were arrested in Denver, Colo., while offering gold leaf for sale.

**Booth-Chamberlain.**—Dr. Herbert Booth, a dentist in Penacook, N. H., and Miss Fannie Chamberlain, of Tilton, were married recently in the latter place.

**Kills Man Who Wronged Sister.**—A colored dentist was recently killed in Memphis, Tenn., by another negro, who claimed that the dentist had wronged his sister.

**Blames the Goat.**—A dentist in Findlay, Ohio, has sued the Modern Woodmen and the initiating team for \$50,000 damages, alleging that he was injured by the work and that his injuries caused locomotor ataxia.

**Sentenced for Murder.**—A dentist in Cameron, W. Va., has been sentenced to a term of ten years in the penitentiary for murdering his two-year-old son, at the same time wounding his wife, in an attempt on her life.

**Dental Manufacturers' Club.** at its recent meeting in Rochester, elected the following officers: President, C. O. Rother, Buffalo, N. Y.; vice-president, Dr. J. F. Frantz, New York City; secretary, W. H. Truesdale, Columbus, Ohio; treasurer, James Whitington, Philadelphia.

**The Dental Faculty Association of America** has been organized with a membership of the following universities: Iowa, California, Harvard, Pennsylvania, Michigan and Minnesota. The first meeting will be held during the summer.

**Jefferson-Union District Dental Society** met in Carbondale March 9 and elected the following officers: President, Dr. W. A. McKee, Benton; vice-president, Dr. G. W. Entsminger, Carbondale; secretary-treasurer, Dr. L. Perry, Murphysboro.

**Des Moines District Dental Society** held its meeting in Des Moines February 24 and elected the following officers: President, Dr. Hallett, of Des Moines; vice-president, Dr. Houghton of Valley Junction; secretary, Dr. Lemly of Grinnell, and, treasurer, Dr. Clapps of Des Moines.

**First District South Dakota Dental Society** held its annual meeting at Yankton, S. D., Feb. 24. The following were elected as officers: Dr. E. M. Valentine was re-elected president; Dr. McDonald, Elk Point, vice-president; Dr. Martin, Vermillion, secretary-treasurer.

**Northwestern Oklahoma Dental Society of Oklahoma** was organized at a meeting March 4 at Enid and the following officers were elected: President, Dr. E. H. Westenhaven, Enid; vice-president, Dr. F. P. Hulin, Pond Creek; secretary, Dr. C. R. Lawrence, Enid; treasurer, Dr. I. E. McCarty, Enid; librarian, Dr. Roy R. Woolwine, Hennessey.

**Dr. Butler Honored.**—Dr. Charles Richard Butler, dean of the dental profession in Cleveland, Ohio, was honored by a banquet given for him

March 12. About seventy dentists joined in wishing him continued success and long life. Dr. Butler has practiced continuously in that city since 1855.

**Sauk County (Wis.) Society** was organized at a meeting in Reedsburg March 11 and the following officers elected: President, Dr. W. F. Doyle, Reedsburg; vice-president, Dr. G. W. Snyder, Baraboo; secretary, Dr. E. L. Ritzenhaler, Reedsburg; treasurer, Dr. J. R. Clark, La Valle; librarian, Dr. P. P. Kelley, Baraboo.

**Central Texas Dentists.**—The fifth annual convention of the Central Texas Dental Society was held March 13 at Temple, Tex., Officers were elected as follows: President, H. M. Davidson, of Hubbard City; vice-president, T. W. Foster, of Marlin; secretary-treasurer, J. M. Murphy, of Temple; executive committee, A. H. Foster, of Caldwell, and S. M. Meyers, of Cleburne.

**Odontological Society of Western Pennsylvania.**—Officers were chosen at the closing day of the twenty-eighth annual meeting of the Odontological Society of Western Pennsylvania March 10. The election of officers resulted: President, Dr. J. D. Whitman, Mercer, Pa.; vice-president, Dr. W. H. Fundenberg, Pittsburg; secretary, Dr. B. M. Loar, Mt. Pleasant, Pa.; treasurer, Dr. C. C. Taggart, Pittsburg.

**Alumni Clinic at Iowa.**—The sixth annual meeting and clinic of the Alumni Association of the University of Iowa was held March 9-10. Resolutions were adopted thanking Congressman Dawson for his successful efforts to secure the passage of a bill providing for the rank of dental surgeons in the United States navy. The officers were elected as follows: President, Dr. J. B. Montfort, Fairfield; vice-president, Dr. John Hilderbrand, Waterloo; secretary, Dr. H. H. Gardiner, Williamsburg; treasurer, Dr. J. J. Booth, Marion. The next meeting will be held at Iowa City.

**Robberies.**—Drs. J. R. Kuhn and S. E. Huffhines, Joplin, Mo., loss \$60 and \$15. H. W. Hodge and L. K. Brown, Wichita, Kas., loss not given. R. C. Maxwell, Wichita, Kas., loss \$32. Page, Harrison and Temple, Tulsa, Okla., loss in all \$1,000. H. M. Grandle, Pittsburg, Kas., loss not given. At Oklahoma City, Okla., W. L. Dutcher, loss \$175; S. S. Swihart, \$50; F. H. Colter, \$125; A. J. Beatty, \$5; A. M. Detrick, \$40; W. L. Maupin, \$100; Murray Kirkwood and R. G. Anthony, Wichita, Kas., loss \$50 and \$45, respectively. E. G. Mease and Raymond Chapman, Dunkirk, N. Y., loss not given. W. J. Larder, Fredonia, N. Y., loss \$200. E. P. Shands and W. B. Ferguson, Waxahachie, Tex., loss not given. R. A. Jackson, Chicago, Ill., loss \$100. Smiley & Vanasdols, Washington, Ind., loss \$60. George Doerbecker, Waukegan, Ill., loss \$200. Sidney Smith and R. M. Bright, Paducah, Ky., loss \$50 and \$43, respectively. Three offices in Sherman, Tex., and all but one office in Mount Vernon, Ill., were robbed, names and amounts not given.

**Removals.**—Drs. Walter Sims from Wheeling, W. Va., to Martins Ferry; R. C. Lockwood from Beloit, Kas., to Lawrence; L. T. Sauerbrum from Mansfield, Ohio, to New Washington; A. A. Atwood, from Pecatonica, Ill., to Aberdeen, S. D.; DeWolf Jackson from Abbotsford, Wis., to Pecatonica, Ill.; J. W. Babb from Canton, Ill., to Peoria; F. J. Bartel from St. Louis, Mo., to Troy, Ill.; James Hallet from Chambersburg, Pa., to Wilmington, Del.; J. D. Baker from Lohrville, Iowa, to Payette, Idaho; G. C. Ellis from Bellevue, Iowa, to Maquoketa; C. W. Allen from Shelby, Mich., to Union City; E. H. Hollem from St. Charles, Ill., to Modesta, Cal.

**State Board Affairs.**—The Clark Dental Bill has been presented to the Illinois legislature. The bill rewrites the entire dental act. It provides for a state board of dental examiners, consisting of five practicing dentists to be appointed by the governor. The board is to have charge of the examinations and is to issue licenses. It is to establish a uniform standard of educational requirements to be observed by dental schools. The examination fee is placed at \$20 and the license fee at \$5. The bill provides for interchange of dental certificates between states and for a general registration next November and every four years thereafter. The state dental examination law of Minnesota has been upheld by the supreme court in that state in the case of Charles E. Cromble, convicted of practicing dentistry without a license. A committee has been appointed by the legislature of Missouri to investigate the State Dental Board, the contention being that the board has failed to make annual reports to the governor, as required by law. The Hurd bill has been passed by the California senate. The bill provides for the examination of any applicant whether he has ever been to a high school or dental college or not. The supreme court of Montana has reversed the judgment of the lower court in the case of R. R. Johnson vs. The City of Great Falls, which was that the dentist need not pay a license to the city. The state law allowing a city to collect a license fee is thus sustained. The governor of Wyoming has appointed Drs. Appel, Frackelton and Cunningham as members of the State Board. A stay of proceedings has been granted in the case of The State of Utah vs. H. L. Stonecifer, pending an appeal to the supreme court, the lower court having found the dentist guilty of practicing without a license. A large delegation from the Manitoba Dental Association appeared recently before the law amendment committee to protest against the proposed amendment to the Dental Act. The proposed amendment provides that any dentist holding a diploma from any dental college may practice in the province. One of the dentists made the statement that there were colleges in the United States, which granted diplomas for about \$50. Dr. George A. Bowers, of Nashua, N. H., has been appointed as a member of the State Board. A dentist in Bloomington, Ill., has been arrested for practicing without a license.

**Northern Dental Association of Oklahoma** was organized at a meeting held March 13 at Tulsa and the following officers elected: President, Dr. B. I. Shobe, Bartlesville; vice-president, Dr. L. J. Seids, Broken Arrow; secretary, Dr. J. M. Templas, Tulsa; treasurer, Dr. W. H. Pelky, Sapulpa. Dr. C. E. Clark, Broken Arrow, and Dr. George E. Stevenson, Tulsa, together with the president, secretary and treasurer, comprise the executive committee.

#### NECROLOGICAL.

**Dr. Rogers P. Smith**, a dentist for twenty years at Sturgis, S. D., died March 10 of pneumonia.

**Dr. Joseph A. Turner**, a dentist in Dyersburg, Tenn., died recently. He was 36 years old. Dr. Turner's home was Cincinnati.

**Dr. David D. Weisell**, for 35 years a dentist in Ft. Wayne, Ind., died March 16 at the age of 77 years of pneumonia. Dr. Weisell was a graduate of the Medical Department of the University of Michigan.

**Dr. N. P. Allen**, a dentist, formerly at Smiths Grove, Ky., died in Bowling Green February 15, in his 79th year. He had been in the practice of dentistry for 50 years.

**Thomas J. Collins**, a well known dentist in Detroit, Mich., died January 22. Dr. Collins was a graduate of the Detroit College of Medicine, class of '95, and was a member of the faculty for 16 years.

**Dr. J. M. Nash**, for many years a dentist in Brenham, Texas, was found dead by some friends with whom he was fishing. He was 53 years old. Dr. Nash was a graduate of New York College of Dentistry, '93.

**Dr. Nellie B. French**, a dentist in Ft. Wayne since 1897, died March 11. She was a member of the Isaac Knapp Dental coterie and was at one time its president, and of the Indiana and the Northern Indiana Dental Societies.

**Dr. G. M. Johnson**, a dentist in Pittsburgh, Pa., died February 13, as a result of injury caused by an explosion of gas. He was a graduate of the Pennsylvania College of Dental Surgery, class of '88, and was 48 years old.

**Dr. John H. Downs**, for many years a dentist in New York City, died March 9 as a result of falling down stairs. He served as lieutenant in the civil war. Dr. Downs was a graduate of the Pennsylvania College of Dental Surgery in the class of '69.

**Dr. A. W. Harlan**, who until five years ago was in practice in Chicago and since that time a resident of New York, died March 6 at the Rebeau hospital from shock following an operation. Dr. Harlan was a professor in the Chicago College of Dental Surgery for a number of years and was editor of the Dental Review. He was a graduate of the Ohio College of Dental Surgery, '80.

DENTAL PATENTS

Fig. 1.

908,056. **Dental Appliance.** Preston S. Whitney and Robert R. Myers, Fairbanks, Alaska. Filed April 29, 1908. Serial No. 429,987. 1. In apparatus of the class described, the combination with pivotally connected forceps members, a block pivotally connected to one of the jaws,

FIG 1

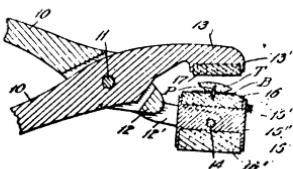


FIG 4



FIG 5

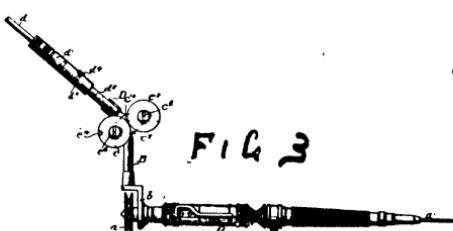
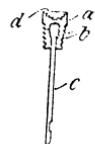


FIG 2

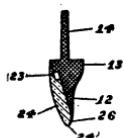
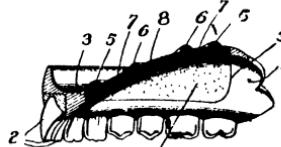


FIG 6



said block being provided with recesses in two of its opposite sides, and facings of yielding material seated in the aforesaid recesses, substantially as and for the purposes described.

Fig. 2.

907,949. **Artificial Tooth.** Emery H. Ballou, Dodge City, Kas. Filed August 13, 1907. Serial No. 388,306. 1. In artificial teeth, a backing hav-

ing a recess in its anterior portion and a facing having a depression in the cervical margin thereof, a projection upon the posterior portion of the facing within said recess, and sliding connecting devices connecting said facing with said backing and a spring fastener upon the backing which takes into the depression in the cervical margin of the facing.

**Fig. 3.**

**908,836. Wrist-Joint for Dental Engines.** Adolph W. Schramm, Riverton, N. J., assignor to Electro Dental Manufacturing Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed October 1, 1907. Serial No. 395,411. 1. The combination with the hand piece and forearm of a dental engine of a joint connection between said parts, the members comprising said connection being free to turn and move longitudinally relatively to each other and having means for counteracting the tendency of the forearm to swing about the hand piece as an axis under the action of the driving cord.

**Fig. 4.**

**907,882. Dentist's Tool.** William J. Reynolds, Selma, Ala. Filed April 22, 1908. Serial No. 428,685. 1. A dentist's tool for punching holes in the backing of crown or bridge-work facings, comprising a pair of pivoted handles having round and pointed punches formed on their forward ends, said punches extending at a right angle to said forward ends, and means for adjusting the distance apart of the punches and maintaining them in adjusted position.

**Fig. 5.**

**899,626. Tooth-Cleaning Device.** Charles P. Schulz, Munich, Germany. Filed February 28, 1908. Serial No. 418,252. 1. In a tooth-cleaning device, the combination of a round body (a) of soft rubber, provided with grooves (b) running round its circumference, and a shaft (c) for suitably connecting said body (a) to a machine, substantially as herein described.

**Fig. 6.**

**903,343. Artificial Tooth.** Jay A. Van Vleck, Gallipolis, Ohio, assignor of one-half to Samuel E. Van Vleck, Gallipolis, Ohio. Filed January 23, 1908. Serial No. 412,309. An artificial tooth plate having formed therein a centrally disposed opening, an elastic pad fitted in said opening and constructed to form a flexible continuation of the plate, and means to provide inner and outer air suction chambers on said pad whereby the latter is caused to form a firm engagement with the roof of the mouth.

---

**FOR SALE.**

Old established dental office in town of 6,000, southwestern Michigan. Practice, \$3,000 per year. For particulars address "B," care of C. L. Frame Dental Supply Co., 1302 Masonic Temple, Chicago, Ill.

**FOR RENT.**

Good location for dentist in eight-room flat in Chicago. John Mall, 2306 Lincoln avenue.

**TYPEWRITER FOR SALE.**

Bar-lock typewriter, in good condition; \$18. Address **AMERICAN DENTAL JOURNAL**.

**THE AMERICAN DENTAL JOURNAL.** Couldn't get along without it. Always read "Toothsome Topics" first.

DR. O. F. BRIGHAM, Springvale, Maine.

**FOR SALE.**

Practice and outfit in excellent condition. Best city in Wisconsin. Unusual bargain. Address T. T., care **AMERICAN DENTAL JOURNAL**.

**PRACTICE TO EXCHANGE.**

Excellent practice in Pittsburg for ethical practice west of Mississippi river, in good climate; or will sell outright. Address care Dunham-Reifel Company, Pittsburg, Pa.

**WANTED.**

Position as Operator. Have four years experience. Registered in Michigan. Answer. Ross, care American Dental Journal.

**FOR SALE.**

Dental Practice; has averaged over \$6,000 a year for the past five years; good western town of 4,000; light competition. Sell in-voice; everything modern. Am retiring from practice. For full particulars write Lock Box 1089, Lincoln Neb.

**FOR SALE.**

Bar-lock Caligraph, Smith-Premier and other makes of typewriters at \$10.00. Address Type, **AMERICAN DENTAL JOURNAL**.

**PYORRHEA**

Owing to the value of Sal Hepatica in the treatment of diseases of the uric acid diathesis it has been found specially beneficial in pyorrhœa alveolaris, a malady in which rheumatism and gout are potent causes. It contains the salts similar to the celebrated Bitter Waters of Europe, fortified by addition of Lithia and Sodium Phosphate. It stimulates liver, tones intestinal glands, purifies alimentary tract, improves digestion, assimilation and metabolism.

Write for free samples.

**BRISTOL-MYERS CO.**  
**BROOKLYN-NEW YORK**



# Paden's Post Graduate School of Anaesthesia

(Incorporated)

BY CORRESPONDENCE

Over 400 Graduates, May 1st

A thorough course of instruction in all branches of Anaesthesia, both local and general. A course adapted for instruction by correspondence from lectures delivered at College of Medicine and Surgery, Chicago.

## For Dentists, Physicians and Trained Nurses

Catalog for Summer Term will be ready about May 15th.

By C. M. Paden, D. D. S., M. D., Professor of Anaesthesia, College of Medicine and Surgery, Chicago; special Anaesthetist, American Hospital.

**Matriculation Fee \$1.00 Tuition, including Diploma, \$7.00**

Diploma conferred upon satisfactory evidence of efficiency.

For further information address

**C. M. PADEN, D. D. S., M. D.**

**72 East Madison Street**

**CHICAGO**

## Peck's Gold Inlay Impression Cones

Points of Advantage in this Impression Material:



It softens readily under dry heat.  
It will not creep under the spatula.  
It is tough and can be carved perfectly.  
It can be removed from the cavity without fear of distortion.  
It is hard enough so that handling will not change its shape.  
It will not warp while placing the sprule in position.  
It is moulded in a convenient form to use.

Ask the Dental Depot for free sample.

Price per box Sixty Cents. Sold at all Dental Depots.

## Great Reduction In Peck's Investment Compound.



Owing to extensive improvements in manufacturing facilities the price of the regular can which sold for \$1.00 will be cut to 50c. I am, also, placing on the market a much larger can for 75c.

Order the BEST and be SURE of your results.

Ask the Dental Depot for free samples.

**Arthur E. Peck, M. D., D. D. S.**  
**1010 Donaldson Bldg., Minneapolis, Minn.**

## INDEX TO ADVERTISEMENTS.

	Page
Aestoria .....	12
American Cabinet Co. ....	5
Antikamnia Chemical Co., St. Louis. ....	16
American Dental Journal's Card System. ....	4, 9, 10
Aischer's Artificial Enamel. ....	25, 30, 40
"Bargains" .....	18
Best Coat Co. ....	84
Bridgeford's Plate Paste .....	11
Bristol Meyers Co., Brooklyn, N. Y. ....	281
Bohr Inlay Metal .....	31
Card System No. 8 .....	cover
Castitite .....	39
Cutter John D. & Co. Dental Floss .....	19
Chicago College of Dental Surgery, Chicago, Ill. ....	21
Chicago Dental Laboratory Co. ....	22
Clark, A. C. & Co. ....	Last Cover Page
Co-arda Co. ....	27
College of Dentistry, University of Illinois. ....	13, 14
Columbus Dental Co. Steele's Facings .....	7, 32
Crocker, Samuel A. & Co. ....	36
Crown Pin Puller .....	28
Davis & Davis, Patents .....	16
Dee, Thomas J. & Co. ....	38
De Trey, E. & Sons .....	45
Dental Ad-writer, H. Elfers .....	42
Dentists Supply Co., New York. ....	42 48
Detroit Dental Mfg. Co. ....	27
Dr. John D. Wirt .....	28
Dr. E. P. Binford, Wax Carver and Casting Machine .....	31
Dr. J. A. Williams, Triclin. ....	41
Edwards Co., J. W. ....	32
Eureka Plaster Bin, Dr. J. J. Lee .....	11
Eureka Suction Co. ....	42
Examination and Account Blanks .....	6
Examination and Account Cards .....	9
Fletcher & Foster, Typewriters. ....	21
Frame C. L. Co. ....	43 44
Goldsmith Bros., Chicago, Ill. ....	15
Hall & Ruckel .....	0
Hall Dental Co., Nerve Paste .....	1 28
Harvard Co. ....	39
Hisey Alvatunder .....	16
Indiana Dental College, Indianapolis, Ind. ....	26
Lambert Pharmacal Co., St. Louis. ....	F. F. R.
Lee S. Smith & Son Co. ....	2
Lederle & Co., F. A. ....	20
Louisville Dental Laboratory .....	29
McConnell Portable Chair .....	42
Morgan Hastings & Co. ....	41
N. W. U. Dental School. ....	28
Nerve Qui-e-tus .....	35
Noide Dental Mfg. Co., John T., St. Louis .....	24
"Nuvo Teeth" .....	8
O'Brien Worthen Co. ....	37
Padens Post Graduate, School of Anesthesia. ....	282
Peck's Inlay Compound .....	282
Record Cards No. 3 .....	17
Ritter Dental Mfg. Co. ....	1
Roach's Suction Wax Carver .....	20
Skinner, F. H., DDS. ....	34
Spooner Dental Co. ....	26
Tracy Casting Machine .....	8
Veo's Remedy .....	26
Western New York Chem. Co. ....	First Cover

# What is your view?

Do you look for progressiveness in the people you meet, or do you just take them as they come and go?

Do you notice whether the salesmen who call on you are well dressed, bright, intelligently energetic fellows, or don't you care?

Is your dental depot well furnished with the latest things pertaining to your profession?

Are you glad to hear of some new method even if you don't buy until convinced of its merits?

Your views are your own, and you patronize the people who give you the best service, the best goods, and who create the best impressions on your mind.

The people in turn do the same with you.

They know you don't use an Electric Engine and they also know there are such appliances, and they would rather employ the man who uses the up-to-date methods, just as you would prefer to do the same thing in their circumstances.

New and up-to-date appliances don't mean so much money lost, but so much invested, with the assurance of a fine dividend, for you're buying stock in the people's opinion, and if you cater for their best opinion, it is the safest asset you can have.

You know that COLUMBIA ENGINES are the highest standard, so why not get one?

*Our Terms are ten per cent. off for cash, or \$10 down, balance at \$10 a month.*

SEND FOR CATALOG

**THE RITTER DENTAL MFG. CO.**  
**ROCHESTER, N. Y.**



